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Taxes, Governance, and Debt Maturity Structure: International Evidence

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Abstract

We provide a cross-country evidence on the impact of corporate and personal income taxes, and corporate governance systems on debt maturity structures. We find longer debt maturities, higher leverage, and, in a dynamic setting, a greater propensity to decrease short-term debt in countries with high investor protection and classical tax system. Our results imply that when investors are protected, firms tend to have optimal debt maturities to maximise the gains from tax shields and minimise the tax cost of equity. In contrast, in low protection countries, investors prefer their firms to opt for low debt that is mainly short-term to mitigate the risk-shifting and debt overhang problems even if this entails forgoing the debt tax shields. Our results hold for various robustness checks including the hierarchical linear model specification, which corrects for a number of OLS biases.

JEL classification: G32

Keywords: Debt maturity; Debt overhang; Risk-shifting; Signalling; Classical and imputation tax systems

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1. Introduction

Companies are likely to face limited availability of long-term financing sources. Their reliance on predominantly short-term debt exposes them to rollover risk, and reduces the present value of their tax shields, and their growth potentials (e.g., Diamond, 1991). In the presence of agency conflicts between shareholders and debtholders, high leverage results in two additional major costs which exacerbates the underinvestment and asset substitution problems: (i) risk-shifting driven by shareholders' incentive to increase the riskiness of the firm's existing assets, even when this would reduce the value of their firm (Jensen and Meckling, 1976; Warga and Welch, 1993), and (ii) debt overhang which arises when debt is high and risky, shareholders tend to have a disincentive to commit new equity capital to be invested in projects that would make debt safer, even if these projects are value creating (Myers, 1977; Diamond and He, 2014). Short-term debt is expected to mitigate these conflicts as it reduces the managers' and the controlling shareholders' power (Ben-Nasr et al., 2015), because it is less sensitive to risk shifting in the firm's underlying assets (Barnea et al., 1980), and to debt overhang as it matures sooner than the realisation of investment returns (Myers, 1977), compared to long-term debt which amplifies these conflicts when the refinancing risk is high due to rollover losses (Almeida et al, 2011; Li, 2013).

However, Diamond and He (2014) argue that short-term debt can increase or decrease debt overhang depending on the timing of the investment. More specifically, debt overhang is reduced by short-term debt for assets in place, while it is increased for future investment opportunities, because this impact depends on the extent to which the value of short-term debt is sensitive to the value of the firm. In particular, when less risk is shared with existing short-term debt, the equity value becomes more volatile and debt overhang increases. These

arguments suggest that the ability of short-term debt to mitigate these problems depends on the severity of the agency conflicts and also the firm's financial health (Eisdorfer, 2008).

The tax and agency costs effects on debt maturity structures are not likely to be observable in a single country analysis because they are relatively fixed. Unlike previous, predominantly US studies, we use various cross-country and firm level tax, governance proxies, and rollover risk measures to assess the severity of these problems. We expect healthy firms in strong investor protection countries to have a relatively lower rollover risks, risk-shifting incentives, and debt overhang problems. Moreover, since short-term debt entails opportunity costs of tax shields, we expect firms in strong governance systems to rely more on longer debt maturities, when they operate in classical tax system countries to minimise their shareholder tax cost, and maximise the interest tax shields. In contrast, debt maturities in weak governance countries will be shorter to reflect the investors' reluctance to trust the management even if this entails higher tax costs, and also the possibility that firms evade taxes because their credit information-sharing systems and branch penetration are low (Beck et al., 2014). We control for other drivers of debt maturity predicted by the signalling (Diamond, 1991; Flannery, 1986; Gopalan et al., 2014; Goyal and Wang, 2013), matching (Morris, 1976), and macro-economic (Diamond, 1984; Fan et al., 2012) theories to account for the funding availability and its access.

We use a sample of 134,794 firm-year observations based on a sample of 14,207 firms from 24 OECD countries to test our hypothesis. We split our countries into strong and weak investor and creditor protection countries, following Djankov et al. (2008), and into classical and imputation tax systems, following Alzahrani and Lasfer (2012) to assess both the corporate and personal tax impacts. We use Z-score to measure firms' financial distress risk. Our tests account for the simultaneous choice of debt maturity and leverage, in line with Johnson (2003) and Datta et al. (2005), as Barclay et al. (2003) suggest that firms

endogenously choose leverage and debt maturity. We also test the sensitivity of our results using other classifications and definitions of our proxy variables.

We show that firms located in strong investor countries exhibit significantly longer debt maturities. However, within these countries, the maturities are significantly higher in classical tax systems and when the tax advantage of debt relative to equity is high. We find similar results when we analyse leverage. These results suggest that in strong investor countries, firms prefer long-term debt when the debt tax benefits are high, and when shareholders are faced with a higher tax cost on equity financing. In contrast, in weak investor protection countries, the impact of taxation on the choice of debt maturity is not consistent with our expectations. We find that maturities are higher in imputation compared to the classical tax system, and the relationship is relatively weak when we account for all control variables. We find similar results using the traditional proxy measure for tax effect. For example, the term structure of interest rate has a positive and significant effect in strong investor protection countries, suggesting that companies use longer maturity of debt when the term structure of interest rate is upward sloping, consistent with the tax hypothesis. However, we find no evidence of such effects within weak protection countries. Our results hold even when we account for all firm and country characteristics and when we exclude the most represented US firms which exhibit the longest maturity structures. The impact of the severity of distress on debt maturity is also observed when we account for all the control variables, as healthy firms appear to have significantly lower short-term debt throughout our analysis. Interestingly, in both governance systems, the relationship between taxation and maturity is more pronounced in healthy rather than distressed firms, whose main concern is survival.

We assess the joint effect of governance and taxation on debt maturity by including an interaction variable between governance and classical tax system. We find that this variable is negative and significant, while the stand-alone investor protection and the tax discrimination

variables become insignificant. These results support the arguments that firms do not set longer maturities because of governance and tax systems separately, but their decision to opt for more long-term debt is driven by the combination of tax optimisation and investor protection. The tax discrimination effect is apparent although Graham (2006) argues that it is difficult to estimate the shareholders' personal income and capital gains taxes. We show that this impact is significant only when investors are protected.

We then focus on the agency conflict of debt. In line with Myers' (1977) arguments that firms use shorter maturity debt to minimize the underinvestment problem, we find a positive relationship between short-term debt maturity and growth opportunities as measured by the market-to-book ratio, which is used as a proxy for risk shifting (Barnea et al, 1980; Barclay and Smith, 1995; Guedes and Opler, 1996). However, the abnormal earnings variable is positive and significant, consistent with Flannery (1986) and Diamond (1991), but only for healthy firms. For distressed companies, its impact is insignificant, probably because they are more concerned with their survival than underinvestment and/or signalling. These results suggest that short-term debt mitigates the debt overhang problem, as suggested by Myers (1977), but only in good times, in line with Diamond and He (2014). We find a homogeneous significant effect of firms' fundamental variables, such as size, leverage, and asset maturity across all our specifications, consistent with previous evidence (e.g., Smith and Watts, 1992; Barclay and Smith, 1995; Diamond, 1991).

In a dynamic setting, we find that the probability of firms increasing their short-term debt maturity is negatively related to the strong investor protection and creditors' rights, and when the tax cost is high, but this effect is more pronounced in strong investor protection countries and when firms are healthy, and have high growth opportunities and low leverage. The impact of profitability and risk, as measured by distress and earning volatility, are relatively weak, suggesting that firms do not increase their short-term debt because of debt

overhang problems. Instead, they do so when the gains from tax shields are low and when their investors are less protected.

We also show that firms are less likely to decrease their debt maturities in strong investor protection countries, but this likelihood is stronger in classical tax system and when the tax discrimination between dividends and capital gains is low, i.e., when there is strong tax preference for debt financing. We find that the interaction between investor protection and our tax variable, rather than the tax system *per se*, affects strongly the decision to decrease the debt maturity. Moreover, firms are less likely to decrease their maturities when they are large, have high leverage, high profitability, and low growth opportunities. These results suggest that firms tend to use short-term debt when the potential cost of risk shifting is high, in line with Barclay and Smith (1995) and Guedes and Opler (1996).

Throughout our analysis we control for the firm's financial constraints, even though Farre-Mensa and Ljungqvist (2016) show that no measure is satisfactory. We first expect firms that pay dividends to have sufficient internal funds at their disposal to honor their contractual obligations, to finance their investments, and to meet their shareholders' expectations, and are, therefore, less likely to be financially constrained (e.g., Fazzari et al., 1988). We find a strong negative (positive) effect on short-term debt maturity (leverage), but the impact is not robust in weak investor protection countries. We consider, however, that the use of payout in our case may be problematic because according to La Porta et al. (2000b) weak governance firms may pay low dividends if payouts emanate from a legal protection of minority shareholders (outcome model), or high dividends if they are substitute for weak shareholder protection (substitute model).[1] We, therefore, use Whited and Wu (2006) index as an alternative measure of financial constraints. Consistent with our expectations, we find a homogeneous positive (negative) effect on short-term debt maturity (leverage), suggesting

[1] For further evidence, see, e.g., Alzahrani and Lasfer (2012), Brockman and Unlu (2009), and Faccio et al. (2001).

that constrained firms have shorter maturities and lower leverage. We find relatively similar results using Kaplan and Zingales (1997) index.

The impact of the remaining variables on the level and changes in short-term debt maturities is relatively weak, suggesting that the agency conflicts and tax factors capture most of the effects. In particular, we find that the banking sector does not have an impact on the level or changes in debt maturity, suggesting that maturity is not affected by the supply of debt, and banks are not more likely to be able to supply predominantly debt that is long-term or short-term. These results are in contrast with Diamond's (1984) argument that intermediaries take benefit from economies of scale, and Fan et al. (2012) who find that banks tend to hold more short-term liabilities, and hence offer mainly short-term loans.

Our results are related to previous theoretical and empirical studies. Myers (1977) argues that the underinvestment problem can be mitigated by using short-term debt because it matures before the growth opportunities are exercised. Burkart et al. (2003) argue that minority expropriation diminishes as investor protection improves, and the dominant shareholders become less prevalent. This reduction abolishes the incentive of risk-taking behaviour, and thus shareholders forgo negative net present value investments. These arguments suggest that when investors are not protected, short-term debt serves as a monitoring device of the agency conflict. Moreover, La Porta et al. (2000a) argue that, in strong protection countries, the corporate governance of the broad financial markets is more effective, the supply of capital is more efficient, and the credit markets is larger than in weak investor protection countries. Our overall results are consistent with these arguments as firms located in strong investor protection countries are more likely to use longer debt maturities.

However, we contribute further to this strand of literature by assessing the combined effect of taxes and governance on debt maturities. Unlike previous studies, we focus on the differences in tax systems following Graham's (2006) plea that it would be helpful if there

were more studies that exploit the rich variation in tax codes around the world. Scholes and Wolfson (1992) argue that under the tax clientele hypothesis, the greater marginal tax rates facilitate firms to use the on-going interest tax shields, and thus firms are more likely to commit to long-term debt. However, Alzahrani and Lasfer (2012) show that the tax effect is more relevant in strong protection countries, where managers are expected to maximise firms' value by maximising the after-tax return of their shareholders. In line with these arguments, we find that in strong protection countries and in the classical tax system, where dividend is double-taxed at both firm and shareholder levels, firms use longer maturity of debt to maximise their debt tax shields and minimise the after-tax returns to their equity holders. Our results suggest that when investors are protected, they weigh the tax benefit of debt against the potential agency conflicts of extended maturities, but, when they are not, they prefer to incur higher tax costs than to trust the management with longer debt maturities.

Overall, our results suggest that, in strong investor protection countries, managers are more inclined to pursue shareholders' interest by opting for longer maturities to maximise after-tax returns, but in weak investor protection countries, managers can get away with setting up debt maturities that are independent of tax costs because investors are concerned about the mitigation of the debt overhang and risk shifting problems than tax gains. Our results provide an additional perspective to the agency explanation of debt maturity decision and show that the interrelation between agency costs and taxation explains leverage and debt maturity structures across firms and countries. Our findings hold when we exclude US firms, we control for time-variation in the relation between leverage, debt maturity, and other firm-specific factors, we use alternative definitions of governance, measures of distress, and econometrics specifications to account for endogeneity, and when we use the hierarchical linear model (HLM) method, following Li et al. (2013), to mitigate the OLS method biases.

The rest of the paper is organised as follows. Section 2 provides the review of the literature and the hypotheses tested. Section 3 presents the data and the methodology. Section 4 discusses the empirical results and the conclusions are in Section 5.

2. Theoretical background

We focus on two main theories that might explain differences in debt maturities across firms: agency conflicts and taxes. Under the Jensen and Meckling (1976) agency conflict framework, Diamond (1991) argues that shorter-term debt requires frequent renegotiations and monitoring from banks, and hence it is a "powerful tool to monitor managers" (Stulz, 2000) with a minimum effort (Rajan and Winton, 1995). Empirically, Lin et al. (2013) find a positive association between the control-ownership wedge of the controlling owner and long-term debt maturity suggesting that self-interested controlling owners prefer longer maturity debt to avoid external monitoring by lenders. However, this creates conflicts between controlling and minority shareholders over the maturity structure of debt. Ben-Nasr et al. (2015) show that firms with multiple large shareholders tend to have shorter debt maturities because they limit the ability of controlling owners to extract private benefits, as they lead to more frequent external monitoring.

In addition, firm's debt maturity is also likely to be affected by the conflict between shareholders and debtholders. Myers (1977) suggests that short-term debt mitigates the underinvestment problem because it matures before the growth opportunities are exercised. Similarly, Barnea et al. (1980) link risk-shifting to debt maturity. They argue that since the value of short-term debt is less sensitive to changes in asset volatility, issuing short-term debt can reduce risk-shifting incentives. Burkart et al. (2003) argue that as investor protection worsens, minority expropriation and the incentive of risk-taking behaviour increase and the dominant shareholders become more prevalent. In this case, short-term debt can be used as a mechanism to mitigate any potential agency conflicts in weak investor protection countries.

However, the use of short-term debt results in a loss of an on-going interest tax shields (Scholes and Wolfson, 1992). Empirically, Newberry and Novach (1999) find that firms issue bonds with longer maturities when the marginal tax rates are higher. The combination of the agency costs and tax shields suggests that firms would trade-off the benefit of reducing underinvestment/risk-shifting problems against the opportunity cost of interest tax shields when they consider using shorter maturity of debt.

The empirical evidence provided to date focuses mainly on a single country analysis where tax and governance system do not change frequently.[2] Across countries, some studies attempt to investigate how institutional differences affect debt maturity to overcome some of these drawbacks. However, the reported evidence is mixed. For example, Demirgüç-Kunt and Maksimovic (1999) find that firms in strong creditor rights countries do not use longer debt maturities. Fan et al. (2012) and Zheng et al. (2012) find that firms located in common law countries use longer maturity of debt. Their results suggest that firms in higher investor protection countries prefer longer maturity of debt, in line with La Porta et al. (1998), who argue that common law countries provide stronger investor protection than civil law countries. These arguments imply that in strong protection countries where agency costs are less severe, firms are more likely to use longer maturity of debt, as managers are more likely to focus on the corporate and the personal income taxes of their investors, and opt for a financing method that will maximise their investors' after-tax returns. In contrast, in weak investor protection countries, their objectives may be other than value creation and the tax system may not be fully functional (Beck et al., 2014).

[2] For example, using small and medium sized companies, López-Gracia and Mestre-Barberá (2010) show that firms use shorter maturity of debt when they have higher tax rates. Antoniou et al. (2006) find positive and significant effects of term structure of interest rates on debt maturity in the UK, in line with the tax predictions, but inconsistent with Barclay and Smith (1995), Stohs and Mauer (1996), Guedes and Opler (1996), and Scherr and Hulburt (2001). Barclay and Smith (1995) and Guedes and Opler (1996) show that firms with more growth options (and therefore higher potential agency costs) have more short-term debt in their capital structure. However, the tax and agency costs measures used in single country studies are county invariant.

Previous cross-country studies on debt maturity either ignore tax effects (Demirgüç-Kunt and Maksimovic, 1999) or find mixed evidence (Mateus and Terra, 2013; Zheng et al., 2012). Fan et al. (2012) argue that debt will be used less in countries with dividend imputation than in countries with classical tax systems. They estimate the tax shield using the tax gain from leverage introduced in Miller (1977) and find that leverage is higher in countries where the tax gain from leverage is positive. However, they do not investigate the impact of tax systems on debt maturity. In classical, as opposed to imputation, tax systems, firms pay low or no dividend, (Alzahrani and Lasfer, 2012). These arguments suggest that in strong protection countries and in the classical tax system, managers are likely to use more long-term debt to maximise firm value and to minimise their investors' after tax returns.

We also combine the maturity structure with the firm's choice of debt relative to equity financing. Firms may have a higher long-term debt not only because they have less short-term debt, but also because they prefer to use long-term debt rather than equity to finance their long-term assets. Conversely, their maturity structure may be short-term if their preference is more towards equity than debt. We, therefore, expect firms located in countries with more favourable dividend tax environments (imputation tax systems) to prefer more equity financing and hence use less long-term debt, but more short-term debt.

3. Data and Methodology

We first collect all firms registered in OECD countries from *DataStream*. In line with Alzahrani and Lasfer (2012), we exclude Korea, Czech Republic, Chile, Estonia, Greece, Hungary, Iceland, Slovak Republic, and Slovenia for lack or unreliable data. We also exclude Finland, Japan, Luxemburg, Poland, and Turkey between 1990 and 1999, as we could not classify their tax system due to incomplete data, Germany in 1990-2000, Norway in 1990-1991 and 2006-2011, Mexico 1990-1991, Sweden 1991-1999, and Poland in 2002 because they apply other tax treatments. We also exclude financial firms and firms with negative book

equity. Our final sample includes 14,207 firms from 24 OECD countries in 1990-2011, resulting in 134,794 firm-year observations.[3] Firm-specific data is from DataStream while country-level data is collected from several sources detailed in Appendix 1.

Our primary empirical tests are based on the following simultaneous equations:

$$STDR_{i,t} = \beta_0 + \beta_1\, Inv.p_{i,t} + \beta_2 CR_{i,t} + \beta_3 Classical_{i,t} + \beta_4 TD_{i,t} + \beta_5 LTBLev_{i,t} + \sum_{k=1}^{18} \beta_k\, CONTROL_{i,t} + \varepsilon_{i,t} \quad (1)$$

$$LTBLev_{i,t} = \beta_0 + \beta_1\, Inv.p_{i,t} + \beta_2 CR_{i,t} + \beta_3 Classical_{i,t} + \beta_4 TD_{i,t} + \beta_5 STDR_{i,t} + \sum_{k=1}^{16} \beta_k\, CONTROL_{i,t} + \varepsilon_{i,t} \quad (2)$$

where *STDR* is short-term debt divided by total debt, *Inv.p* is anti-self-dealing index (Djankov et al., 2008), *CR* is creditor right index (Djankov et al., 2007), *Classical* is a dummy variable equal to 1 if the firm is located in a country adopts classical system and zero otherwise, *TD* is Miller's (1977) tax, and *LTBLev* is long-term debt over long-term debt plus equity.[4] We also use the term structure of interest rate to proxy for the tax effects (Brick and Ravid, 1985; Garcia-Teruel and Martinez-Solano, 2007) even though Scherr and Hulburt (2001), Barclay and Smith (1995), Guedes and Oplimer (1996) and Ozkan (2000) cast doubt on the tax effect.

Since the estimation of each equation separately will result in biased and inconsistent estimated coefficients because of simultaneous equation bias, we use a two-stage estimation procedure. We replace the endogenous variables with their predicted values to control for endogeneity (Wooldridge, 2002). We follow Dang (2011) to select the instruments for the exogenous variables in our model. In the debt maturity equation (1), we use non-debt tax shields and tangibility as the instruments for leverage as they are not theoretically related to debt maturity (Dang, 2011; Johnson, 2003). In the leverage equation (2), Dang (2011) uses only asset maturity and term structure of interest rates as instrumental values for debt

[3] In appendix 5, we report the tax system and TD for each country over the period 2012 to 2016. Our results indicate that countries have not switched their tax systems and TD has not changed significantly. We, therefore, expect our overall results to hold in the post 2011 period.

[4] For the purpose of our hypotheses, we include long-term debt to measure leverage (see section 2).

maturity. They select asset maturity and term structure as other variables (e.g., asset maturity, tax ratio, term structure of interest rates, volatility, and firm quality) are potentially correlated with leverage (e.g., Frank and Goyal, 2009). Similarly, we use asset maturity and term structure of interest rates as instruments for debt maturity in Equation (2).

We use firm-level variables to capture the signalling, tax, agency costs, and matching effects. In the presence of information asymmetries, Flannery (1986) shows that high-quality firms use short-term debt to signal to the market that they are confident they will honour their debt obligations. While both long- and short-term debt are mispriced, only long-term debt is more sensitive to asymmetric information. In this case, high quality firms will issue short-term debt to signal to the market that they can afford to repay the short-term obligations and also to cover the transaction costs of debt renegotiation, while low quality firms cannot afford to roll over short-term debt, and hence prefer to issue long-term debt. We proxy firms' quality using abnormal earnings as in Stohs and Mauer (1996) and Barclay and Smith (1995).

The asset maturity hypothesis predicts that firms mitigate their financial risk, which arises when their cash flows are not sufficient to cover their commitments, by matching their debt and their assets maturities (Morris, 1976). Debt with maturity longer than the maturity of assets is risky because the assets may not be enough to cover the debt covenants. To proxy for this effect, we use property, plant and machinery over depreciation.

At country level, Fan et al. (2012) consider the capital suppliers' preferences on the structure of debt maturity.[5] They argue that firms in countries with developed banking system tend to use more short-term debt as banks hold more short-term liabilities. Conversely, firms in countries with a larger insurance sector are more likely to use long-term debt. Unlike

[5] Demirg¨uc¸-Kunt and Maksimovic (1999) argue that some country-level data may raise endogeneity problems and hence we follow Fan et al. (2012) and use the selected variables that are less likely to cause endogeneity issue. However, in contrast to Fan et al. (2012), we do not control for bankruptcy code and deposit insurance, as they do not vary across tax system, particularly in our strong protection countries.

Demirgüç-Kunt and Maksimovic (1999), they find negative impact of the banking sector on debt maturity.

We use banks' deposits over gross domestic product (GDP) to measure the available funds from the banking sector as a proxy for the preferences of the suppliers of the capital. We expect that firms in countries with a bigger banking sector to use more short-term debt. However, banks' risk will also affect their lending and maturity choices. We, therefore, use a number of bank risk measures. The first is banks' credit over their deposits. High-credit banks have a greater ability to pay their debt when it is due, thereby reducing the risk of banks run, implying that firms in countries with low-risk banks to use long-term debt. The second is the insurance sector, as proxied by insurance premium (life and non-life) over GDP. We expect firms in countries with a bigger insurance sector to use higher long-term debt. Finally, to account for liquidity, we use the ratio of gross domestic savings over GDP to measure the amount of funds available for all financial intermediaries. We expect firms in countries with a greater supplier of capital to use more long-term debt.

Grossman (1976) argues that prices of listed companies transfer information that can be useful for creditors, and hence lending quoted firms to be less risky due to their transparency in the stock market. We expect firms in countries with developed stock markets to have higher access to long-term credit, thus, more likely to use more long-term debt. Demirgüç-Kunt and Maksimovic (1999) show that leverage and debt maturity increase with the size of stock markets. In addition, higher bond market development provides a better protection for borrowers. Hence, we expect firms in countries with better and diversified bond markets, measured by bond market capitalisations over GDP, international debt issued over GDP, and loan from non-resident banks over GDP, to use more long-term debt.

Finally, we control for the economic and industry effect condition using inflation and yearly industry median of debt maturity, respectively. Inflation makes it costly for firms and

investors to contract (Demirgüç-Kunt and Maksimovic, 1999), thus firms will use more short-term debt when the inflation rate, measured by changes in consumer price index, is high.

In robustness checks, we check for consistency using alternative statistical approaches. We use Generalized Method of Movements (GMM) to control for endogeneity, clustered standard errors to count for heteroscedasticity and serial correlation, and the hierarchical linear model (HLM) to overcome OLS biases in multilevel structure datasets.

4. Empirical Results

4.1. Descriptive Statistics

Table 1 reports summary statistics of the variables used in our analysis. The mean (median) debt maturity, *STDR*, is 0.43 (0.37), in line with previous evidence (e.g., Fan et al., 2012; Zheng et al., 2012; Dang, 2011), but higher than the 22% reported by Datta et al. (2005). The average book leverage, *LTBLev*, of 24% is also consistent with previous evidence (Antoniou et al., 2008). The remaining variables are also in line with most previous evidence.

[Insert Table 1 here]

Table 2 reports the impact of financial health, governance, and taxation on debt maturity. We classify our sample into two broad tax systems (classical and imputation),[6] and tax differential ratios, *TD*, (where high (low) TD indicates above (below) average TD). We follow Alzahrani and Lasfer (2012) and Djankov et al. (2008) and classify firms into strong investor protection group if their country is above the average anti-self-dealing index. We find that about 50% of our observations are in high investor protection countries and the same proportion apply the classical tax system (Appendix 2).

We, then use Z-score to measure financial distress and consider firms with Z values below 1.80 to be financially distressed, and market to book ratios to account for growth

[6] We find similar results when we follow Alzahrani and Lasfer (2012) and classify the countries into three tax systems, classical where shareholders pay personal taxes on after corporation tax distributed earnings, and partial (full) imputation systems where they receive tax credit for the corporate taxes paid on earnings partially (fully).

opportunities, in line with Diamond and He (2014). We test for differences in means using the t-test. We report the average short-term debt maturity, *STDR*, in Panel A, and long-term book value of leverage, *LTBLev*, in Panel B. The results based on total debt over total assets, and long-term debt over long-term debt *plus* the market value of equity are relatively similar.

The results show that the distribution of maturity structures and leverage across governance, financial health, and tax systems is not homogenous. Debt has longer maturity in strong protection countries across different tax systems, and independently of the firm's financial strength. The economic impact is relatively more pronounced for healthy firms, particularly in our classification by creditor protection. The distribution by tax discrimination variable also indicates that firms that operate in the low tax system, where the after tax return on equity income is high, appear to opt for more short-term, rather than long-term debt. They tend to have also lower leverage (Panel B), suggesting that these firms prefer equity rather than debt financing. Moreover, high growth firms, as measured by the market-to-book ratio, have higher short-term debt, although the economic difference is not too high. Finally, when we sort our companies by leverage, we find that low long-term debt firms have significantly higher short-term debt. The results are relatively similar when we use creditor protection.

Panel B reports the distribution of leverage by governance, tax, and firms' financial health. The results, not reported, indicate that firms in high governance countries have relatively similar level of debt than firms in low governance systems. In both systems, the distribution of long-term debt is relatively monotonically distributed across the tax systems and firms' characteristics: Leverage is high for firms that operate in a classical tax system, in countries with high *TD*, and when their market-to-book is low, i.e., when they are mature. In line with Fan et al. (2012) our results indicate that debt is used less in countries with dividend imputation than in countries with classical tax systems, but we show also that the Miller (1977) tax differential ratio affects significantly leverage. The last two rows indicate that

short-term and long-term debts are substitutes as firms with low short-term debt maturity have significantly higher long-term debt. Throughout our classifications, the distress factor is predominant: distressed firms appear to have significantly higher leverage than healthy firms.

[Insert Table 2 here]

4.2. Regression Results

In this section we report the results of our regression tests. We use time fixed effects to account for unobserved heterogeneity across time that may be correlated with the explanatory variables, followed byProbit regressions to investigate the impact of taxation and governance on the decision to change debt maturity. For robustness checks, we cluster the standard errors at the firm level to account for heteroscedasticity and serial correlation of errors Generalized Method of Movements (GMM) to control for endogeneity, and the hierarchical linear model (HLM) to correct OLS biases.

4.2.1. Determinants of Debt Maturity Structure

Table 3, Panel A, reports the regression results of the determinants of debt maturity. The first column indicates that firms in our sample are more likely to have longer debt maturities when they operate in strong investor protection countries, classical tax system, and when they have high leverage. The tax discrimination variable is negative implying that firms prefer short-term debt when their investors' equity income is taxed at a relatively lower rate. The control variables are as expected. Firms with high short-term debt are more likely to be high growth, financially constrained, small, with low profitability, short asset maturity and relatively distressed. Similarly, at macro level, firms in countries with high bank deposits, low bank credit, and low stock liquidity are more likely to rely on short-term debt financing.

In the remaining columns, we assess whether our results are not driven by US firms which are relatively highly represented in our sample. We provide results for both the US distressed and healthy firms to account for the severity of the debt agency conflicts. For

healthy firms, the results are qualitatively similar, except for the significance of abnormal earnings and the weak impact of profitability, stock market liquidity, bank deposit, and bank credit. In contrast, for distressed firms, growth opportunities and abnormal earnings do not affect debt maturity structures, and bank deposit is negatively related to maturity.

We split countries in the rest of the world (ROW) into strong and weak investor protection. While long-term debt ratio, asset maturity (*AM*), and firm size remain statistically and economically significant, the impact of the remaining variables is relatively weak. In particular, creditors' rights (*CR*), taxation, profitability (*ROA*), and firm's growth opportunities (*MB*) affect maturity of mainly healthy firms in strong investor protection countries. The proxy for firm's quality, abnormal earnings, is not always positive and significant, implying that high-quality firms do not use short-term debt to signal to the market their future prospects, in line with Ozkan (2000), but in contrast to Stohs and Mauer (1996).

Burkart et al. (2003) argue that in strong investor protection managers have a greater discretion to reduce risk-taking, and, hence, borrowers in less risky businesses have lower incentives to lower agency costs by shortening maturity (Guedes and Opler, 1996). La Porta et al. (2000a) argue that the corporate governance that accompanies broad financial markets is more effective, the supply of capital is more efficient, and the credit market is larger than in weak investor protection countries. Boubakri and Gouma (2010) also show that higher investors' protection reduces bond spreads and increases corporate bond ratings. All these arguments suggest that firms have a better access to long-term debt in strong investor protection countries. Consistently, in our analyses the coefficients of investor protection (*Inv.p*) and creditors' rights (*CR*) are mainly negative and significant, suggesting that firms have longer maturities where investor protection is better.

The tax discrimination (*TD*) is not significant in weak investor protection countries and when firms are distressed, suggesting that the tax effects are more relevant in strong

protection countries, where managers are expected to maximise their shareholders' value by paying more corporate tax to increase their shareholders' after-tax returns. For financially distressed companies, the tax is irrelevant because they are making losses, thus the interest tax shield is not relevant. In Panel C, we report results with interaction effects. The control variables remained relatively the same, thus we do not report them. The results indicate that the classical dummy is still negative and significant suggesting that in countries that adopt the classical tax system, firms prefer to have more long-term debt to benefit from the tax shields. The interaction variable with investor protection is more negative and significant.

Similarly, the interaction of TD and investor protection is negative and significant while TD on its own is not significant. These results suggest that the tax impact is more observed in strong investor protection countries. This is, however, not the case when we use creditors' rights, suggesting that investor protection is more likely to capture the level of agency conflicts. The interaction between TD and CR is positive but insignificant, in contrast to our expectations. Overall, our results imply that in weak investor protection countries, managers may not consider the tax benefits as their objective is not to maximise shareholder value, or their tax system is inefficient as reported by Beck et al. (2014). The impact of the term structure of interest rate, *TS*, a proxy for the tax effect (Brick and Ravid, 1985) is weak, in line with Barclay and Smith (1995) and Stohs and Mauer (1996).

Similar results are observed for the macro-economic variables. We find that firms located in countries with a bigger banking system, as measured by bank deposits, use more short-term debt as they hold more short-term liabilities, in line with Fan et al. (2012). However, this does not apply when we split our sample into different categories. Inconsistent with the preference of capital suppliers, we find that, firms in countries with a bigger insurance sector do not necessarily use short-term debt, in line with Fan et al. (2012). We also measure the amount of funds available for all financial intermediaries by gross domestic

saving over GDP and do not find that firms with greater level of domestic savings have more long-term debt. In contrast to Demirgüç-Kunt and Maksimovic (1999), active stock markets, measured by stock traded over GDP, do not necessarily promote the use of long-term debt, and the inflation rate is weakly associated with long-term debt, unlike Fan et al. (2012).

In Table 3, Panel B, the dependent variable is the book value of leverage. The first column indicates that firms in strong investor protection countries, creditors' rights, classical tax system and where TD is high have relatively higher leverage. These firms are more likely to have longer debt maturities, low growth (*MB*), low profitability (*ROA*), but high tangibility of assets (*Tg*). They are also large and less likely to be financially distressed. The negative relationship between leverage and short-term debt maturity across countries is consistent with Morris (1992), who argues that firms with higher leverage use long-term debt to postpone their probability of bankruptcy. But the results are inconsistent with Dennis et al. (2000), who show that leverage is inversely related to debt maturity.

Firms with higher growth opportunities, as measured by the market-to-book ratio, use shorter debt maturities to mitigate the underinvestment problem, in line with Myers (1977), Barclay and Smith (1995) and Guedes and Opler (1996), but in contrast with Stohs and Mauer (1996). Firms with high leverage are likely to be in countries where bank deposit is low, bank credit, bond capital, stock liquidity, and domestic savings are high, but inflation and bank deposits are low. The remaining results are relatively similar to the findings in Panel A and indicate that these fundamental effects on leverage are mainly observed in strong investor countries and when firms are not distressed.

Panel C also reports the interaction effects for leverage. The impact of the control variables is qualitatively similar, thus not reported. The results indicate that *Classical* and *TD* are still significant. However, while the interactions of investor protection, creditors' rights and TD are not significant, the interactions with classical dummy are positive and significant,

suggesting that in countries where shareholders and creditors are protected, and where the tax benefits are high, firms have a higher level of debt.

[Insert Table 3 here]

4.2.2 Changes in Debt Maturity

Table 4 reports the results of the impact of taxation and governance on the decision to change debt maturity. We estimate the following Probit regression:

$$\Pr(d_{i,t} = 1) = \beta_0 + \beta_1 Inv.p_{i,t} + \beta_2 CR_{i,t} + \beta_3 Classical_{i,t} + \beta_4 TD_{i,t} + \beta_5 LTBLev_{i,t} + \sum_{k=1}^{16} \beta_k \ CONTROL_{i,t} + \varepsilon_{i,t} \quad (3)$$

where $\Pr(d_{i,t}=1)$ is an indicator of firms in our sample that increase their short-term debt maturity. X_i is a vector of firm and country explanatory variables; their coefficients are estimated using maximum likelihood estimation. The dependent variable in Panel A is a dummy equals to 1 if the firm increases short-term debt maturity and zero otherwise. Panel B shows the likelihood of increasing short-term debt versus those firms who decrease and maintain their debt maturity. In Panel A, the results of the full sample show that firms located in strong investor and creditors' protection are more likely to use more long-term debt through time. The marginal effect (*ME*) indicates that, on average, firms increase their long-term debt by about 0.04 for a unit increase in governance index. The impact of the creditor protection variable is relatively smaller. The impact of the tax variables is more pronounced. The results indicate that firms in the classical tax system and when TD is high tend to reduce their short-term debt, and thus, increase their long-term debt. When we split our sample into different groups, the tax impact is still significant, particularly in strong investor protection countries and when the firm is healthy. In line with our previous results, in weak investor protection countries and when firms are distressed, the tax impact is weak.

High levered firms are also more likely to decrease their short-term maturity and to opt for long-term debt, in line with Morris (1992). The marginal effect ranges between 0.192 and 0.362. The impact of growth is also significant, except when firms are financially distressed in strong investor protection countries. The impact of the remaining variables is relatively weak. In particular, the results show that larger companies with greater asset maturities and lower growth opportunities are not necessarily more likely to increase their long-term debt, in contrast to our predictions. These results are not in line with Barclay and Smith (1995) and Stohs and Mauer (1996) who show that long-term debt increases with size and asset maturity, and decreases with growth opportunities, but relatively consistent with Guedes and Opler (1996) who find that size has a U-shaped impact on debt maturity, suggesting that firms issue in the middle of the maturity spectrum, while larger firms issue at both extremes of debt maturity.

Panel B reports the impact of the interaction variables. The results indicate that firms in strong investor protection countries with classical tax systems are more likely to increase the maturity structure of their debt. Similar results are observed for the interaction of TD and investor protection and when the dependent variable is defined as maintaining debt maturity. The impact of these variables on their own is relatively weak, suggesting that a combination of the governance and tax systems that is more likely to affect debt maturity.

[Insert Table 4 here]

4.2.3 Robustness Check

In this section, we conduct several robustness checks of our empirical findings to assess further the impact of the interaction between taxation and investor protection on short-term debt maturity and leverage. The results are reported in Table 5. The control variables remained relatively the same, thus we do not report them. In Equation (1), we test for alternative measures of the investor protection variable by replacing the anti-self-dealing

index with the revised anti-directors' rights of Spamann (2010). The results in Panel A are qualitatively similar. The tax and governance variables are significant, and the interaction between these variables is also significant, except for creditors' rights x classical. These results provide further evidence that firms that operate in strong investor protection and high tax system prefer to have longer debt maturities. The results in Panel B provide further support to these findings. Firms in countries with strong investor protection, classical tax systems, and where the investor after tax return on debt income is higher than equity income have higher leverage. The interaction variables are also mainly significant, suggesting that both investor protection and tax systems affect firms' leverage. The results are qualitatively similar for healthy firms, reported in Panels C to D. For distressed firms the impact is consistent but relatively weak.

In Equation (2), we find similar results when we follow Zheng et al. (2012) and report cross-country regressions. The interaction of TD and investor protection is negative and significant while TD on its own is not significant. In line with our overall results, the impact of governance and taxation is more pronounced for healthy rather than distressed firms. In Equation (3), we measure distress, following Mehran and Prestiani (2010) and Bharath and Dittmar (2010), as the following bankruptcy time length, after controlling for related factors:

$$h\big(t, X\,(t)\big) = h(t, 0)\; exp^{(B\,X(t))} \qquad (4)$$

where h (t, X(t)) is the hazard rate at time t for a firm with covariates X(t). This model controls for the effects of differences between firms as well as changes over time. We also assume that there is a probability of bankruptcy every year to satisfy the assumption of proportional hazard in which explanatory variables are time-invariant. Firms are classified as healthy (distressed) if the hazard rate is below (above) the sample mean. The Hazard ratio is, like Z-score, highly significant and the remaining results are qualitatively similar. The coefficients of the interaction variables of TD, classical, and investor protection are more

sizable for the sample as a whole, and the results are more robust for healthy firms. In Equation (4) our results are similar when we include country-level institutional ownership to total market capitalisation, *Ins. Ownership*.

We test for robustness of our estimation techniques in Equations (5) to (7). In Equation (5), following Dang (2011), we use a dynamic panel estimation, the Generalized Method of Movements (GMM). In Equations (5)-(6), we use the following instruments to control for endogeneity. In Panels A, C, and E, we include the first lagged short-term debt maturity, *L.STDR*. We use the second lagged debt short-term debt maturity as an instrument for the first lagged short-term debt maturity. In Panels B, D, and F, we include the first lagged long-term book leverage, *L.LTBLev*. The second lagged long-term book leverage is used as an instrument for the first lagged long-term leverage. In Equation (5) in all panels, we use lagged control variables as instruments to yield a better fit, following Dang (2011). We report AR(1), AR(2) and Sargan *p*-values to test the null hypothesis of no first-order and second-order serial correlation, and over-identifying restrictions under the null hypothesis of valid instruments, respectively. The lagged short-term debt maturity (Panel A) and leverage (Panel B), not reported, are positive and significant, supporting the dynamic adjustment model. We find same results when we cluster the standard errors at the firm level in Equation (6) to account for heteroscedasticity and serial correlation of errors (Peterson, 2009).

Since our data structure is multilevel, in Equation (7) we estimate the following hierarchical linear models (HLM) specification (Li et al., 2013), where the set of firms within countries form the base-level observations, while countries are the higher-level observations: as follows:

$$y_{i,j} = \beta_0 + \sum_{k=1}^{4} \beta_k \, Interactions\_ctry_j + \sum_{k=1}^{K} \beta_k \, Firm\_level \; CONTROL\_firmdev_{i,j} + \sum_{k=1}^{K} \beta_k \; Firm\_level \; CONTROL\_ctrymean_j + \sum_{k=1}^{K} \beta_k \; Country\_level \; CONTROL\_ctry_j + \varepsilon_{i,j} \quad (5)$$

where *y* is short-term debt maturity (leverage), STDR (LTBLev), in Panels A, C, and E (B, D, and F). Following Li et al. (2013), for firm level variables, we consider firm-level deviations (-dev) and country-level means (-ctrymean). For country-level variables, we consider grand-mean centred country-level deviations (-ctry).[7] This specification allows us to separates the variance in firm-level debt maturity and leverage into what is determined by the firm versus country-level explanatory variables. HLM also corrects for the distortion introduced by varying sample sizes across countries and avoid the OLS bias as the coefficient on a country-level variable can be spuriously significant simply because of the large sample size at the firm level. This problem is accentuated when countries differ markedly in the number of firms in the sample. The HLM framework, unlike the OLS regression where each firm-level observation receives equal weight, simultaneously models regressions at both the firm-level and the country-level. The country-level regression weighted by the precision of the firm-level data, which is inversely related to the sample size within a country. Moreover, the HLM specification accurately incorporates cross-level interactions between the firm- and country-level variables.

Our results are qualitatively similar. However, in Panel A, only the interaction coefficients are significant, suggesting that governance systems and taxes alone do not explain a large proportion of the levels of debt maturity although the combinations of those factors affect debt maturity significantly. The results for healthy firms are relatively similar, except the stand alone coefficients of tax (*TD* and *Classical*) which are also significant. In contrast, these results for distressed firms are relatively weak showing that when firms are healthy the tax benefit of debt is more evident than the potential agency conflicts of extended maturities.

[7] For STDR (LTBLev) HLM regression, K is the number of control variables which is 11 (9), 11 (9), and 12 (12) for firm-level deviations, *-firmdev*, firm-level country means,*-ctrymean*, and grand-mean centred country-level deviations, *-ctry*, respectively. The control variables in Equations 1 and 2 (Section 3) are defined in Appendix 1.

Taxes, governance variables are significant, and the between these variables is also significant, except for *creditors' rights x classical*. These results provide further evidence that firms that operate in strong investor protection and high tax system prefer to have longer debt maturities. The results in Panel B provide further support to these findings. Firms in countries with strong investor protection, classical tax systems, and where the investor after tax return on debt income is higher than equity income have higher leverage. The significant interaction variables suggest that governance and tax systems affect firms' leverage. The results are qualitatively similar for healthy firms, reported in Panels C to D. For distressed firms the impact is consistent but relatively weak.

[Insert Table 5 here]

5. Conclusions

Using a large cross-country data, we find that debt maturity is affected by both firm and country factors. We show that a combination of governance and taxes explain a large proportion of the levels and changes in debt maturity and leverage. Firms in weak investor protection countries have significantly shorter maturities, and the impact of taxation on the choice of debt maturity is not consistent with our expectations. In contrast, those in strong investor protection countries have longer maturities and debt levels, particularly in classical tax systems, and when the tax advantage of debt relative to equity is high to maximise the debt tax shields and their investors' after-tax returns. To capture the agency conflicts relating to debt overhang and risk shifting, we assess whether this relationship is dependent on the firm's financial health. We find that healthy firms have significantly lower short-term debt and higher leverage and the relationship between taxation and maturity is more pronounced in healthy rather than distressed firms that are likely to be more concerned with survival rather than tax saving. Various robustness checks confirm these findings and show that

macro-economic factors, such as financial markets development exert relatively weak effects on debt maturities.

We expand previous studies by providing a relatively deeper analysis of the combined impact of investor protection and taxation on leverage and debt maturity structures. However, our results may suffer from limitations inherent in cross-country studies as the accounting numbers may not be comparable, firms may be subject to tax and governance structures in other than their country of registration, they may face different effective corporate and personal tax rates, and they can have other internal and external corporate governance mechanisms to mitigate their agency conflicts, including specific ownership structure, insider ownership, and board structure, in addition to the magnitude of the country level investor protection.

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Table 1: Summary statistics of firm- and country-level variables

Variables	N	Mean	SD	Median	Min	Max
STDR	134,794	0.43	0.34	0.37	0.00	1.00
Inv.p	134,794	0.58	0.19	0.64	0.17	0.95
CR	134,794	2.03	1.07	2.00	0.00	4.00
Classical Tax	134,794	0.50	0.50	1.00	0.00	1.00
TD	134,794	0.08	0.17	0.03	-0.13	0.46
LTBLev	134,763	0.24	0.21	0.19	0.00	0.69
MB	120,777	2.28	2.11	1.56	0.41	9.04
Size	125,839	12.00	2.07	11.86	8.36	15.77
AB	117,762	0.00	0.04	0.00	-0.07	0.08
ROA	131,403	0.02	0.16	0.06	-0.54	0.22
AM	134,422	0.31	0.23	0.27	0.01	0.80
TS	132,868	0.56	1.10	0.76	-1.63	2.37
Z-score	133,593	2.96	2.45	2.47	-0.99	9.58
WW Index	109,829	0.52	0.08	0.52	0.26	0.77
Div-dummy	129,325	0.58	0.49	1.00	0.00	1.00
Bank Dep.	134,794	0.95	0.65	0.73	0.00	3.95
Bank Credit	134,794	0.90	0.59	0.83	0.00	15.74
Ins. Prem.	134,794	0.07	0.03	0.07	0.00	0.18
Bond Cap.	129,939	1.12	0.61	0.88	0.02	2.56
Inter. Debt	134,794	0.28	0.27	0.20	0.00	2.66
Stock Traded	134,794	1.00	0.70	0.83	0.15	2.84
Inflation	134,794	0.02	0.02	0.02	-0.01	0.04
Domestic Savings	134,794	0.23	0.08	0.23	0.00	0.39
Ind. Med	134,794	0.63	0.21	0.64	0.00	1.00

The sample includes 134,794 firm/year observations from 24 OECD countries. The variables are defined in Appendix 1. N is for number of observations, SD is standard deviation. The data is winsorized at the top and bottom 1%.

Table 2: Tests for Mean Differences

	Strong Investor Protection			Weak Investor Protection			Strong Creditor Protection			Weak Creditor Protection		
	Healthy H	Distressed D	(H-D)	Healthy H	Distressed D	(H-D)	Healthy H	Distressed D	(H-D)	Healthy H	Distressed D	(H-D)
Panel A: STDR (short-term debt/ total debt)												
Classical (1)	0.29	0.34	-0.05***	0.44	0.42	0.02	0.28	0.32	-0.04***	0.42	0.39	0.03***
Imputation (2)	0.40	0.39	0.01	0.52	0.48	0.04***	0.44	0.41	0.03**	0.48	0.44	0.04***
(1) – (2)	***0.11*****	***0.05*****		***0.08*****	***0.06*****		***0.16*****	***0.09*****		***0.06*****	***0.05*****	
High TD	0.27	0.36	-0.09***	0.52	0.48	0.04***	0.31	0.35	-0.04***	0.52	0.47	0.05***
Low TD	0.39	0.38	0.01	0.53	0.50	0.03***	0.46	0.42	0.04***	0.43	0.44	-0.01
High-Low	***-0.12*****	***-0.02*****		***-0.01****	***-0.02*****		***-0.15*****	***-0.07*****		***0.09*****	***0.03*****	
High MB	0.34	0.38	-0.04***	0.55	0.47	0.08***	0.34	0.39	-0.05***	0.46	0.45	0.01
Low MB	0.35	0.34	0.01	0.50	0.43	0.07***	0.37	0.35	0.02*	0.49	0.46	0.03**
High-Low	***-0.01***	***0.04*****		***0.05*****	***0.04*****		***-0.03*****	***0.04*****		***-0.03*****	***-0.01***	
High LTBLev	0.15	0.16	-0.01	0.35	0.40	-0.05***	0.17	0.18	-0.01	0.29	0.35	-0.06***
Low LTBLev	0.50	0.68	-0.18***	0.63	0.70	-0.07***	0.49	0.68	-0.19***	0.60	0.70	-0.10***
High-Low	***-0.35*****	***-0.52*****		***-0.28*****	***-0.30*****		***-0.32*****	***-0.50*****		***-0.31*****	***-0.35*****	
Panel B: LTBLev (long-term debt/ long-term debt +book value of equity)												
Classical (1)	0.24	0.36	-0.12***	0.21	0.37	-0.16***	0.24	0.34	-0.10***	0.20	0.36	-0.16***
Imputation (2)	0.17	0.33	-0.16***	0.17	0.35	-0.18***	0.19	0.33	-0.14***	0.17	0.34	-0.17***
(1) – (2)	***0.07*****	***0.03*****		***0.04*****	***0.02*****		***0.05*****	***0.01*****		***0.03*****	***0.02*****	
High TD	0.22	0.33	-0.11***	0.17	0.35	-0.18***	0.25	0.36	-0.11***	0.16	0.35	-0.19***
Low TD	0.18	0.30	-0.12***	0.17	0.37	-0.20***	0.18	0.30	-0.12***	0.18	0.37	-0.19***
High-Low	***0.04*****	***0.03*****		***0.00***	***-0.02*****		***0.07*****	***0.06*****		***-0.02*****	***-0.02*****	
High MB	0.19	0.32	-0.13***	0.14	0.32	-0.18***	0.24	0.35	-0.11***	0.15	0.31	-0.16***
Low MB	0.22	0.33	-0.11***	0.19	0.40	-0.21***	0.20	0.32	-0.12***	0.18	0.37	-0.19***
High-Low	***-0.03*****	***-0.01****		***-0.05*****	***-0.08*****		***0.04*****	***0.03*****		***-0.03****	***-0.06*****	
High STDR	0.11	0.17	-0.06***	0.10	0.24	-0.14***	0.13	0.20	-0.07***	0.09	0.21	-0.12***
Low STDR	0.30	0.47	-0.17***	0.24	0.45	-0.21***	0.31	0.47	-0.16***	0.25	0.46	-0.21***
High-Low	***-0.19*****	***-0.30*****		***-0.14*****	***-0.21*****		***-0.18*****	***-0.27*****		***-0.16*****	***-0.25*****	

This table reports the tests for mean differences of short-term debt maturity, *STDR*, measured as short-term debt over total debt (Panel A), and long-term book value of leverage, *LTBLev* (Panel B). Strong (weak) investor protection is when anti-self-dealing index score reported by Djankov et al. (2008) is above (below) the mean overall scores. Strong (weak) creditor protection is when creditor rights index score reported by Djankov et al. (2007) is above (below) the mean overall scores. High (low) *TD* is when Miller Tax ratio is larger (smaller) than the overall mean. Firms with Z-score below 1.80 are financially distressed. We use the median per country as the benchmark in our market-to-book ratios, *MB*, long-term book value of leverage, *LTBLev*, and short-term debt maturity, *STRD*, groups. *, **, and *** indicate significance at 10%, 5%, and 1% levels, respectively.

Table 3: Determinants of Debt Maturity Structure and Leverage

	All	US		ROW - Strong inv.p		ROW - Weak inv.p	
		Healthy	Distressed	Healthy	Distressed	Healthy	Distressed
Panel A. Dependant variable is STDR: short-term debt/ total debt							
Inv.p	-0.086***						
	(-8.99)						
CR	-0.004**			-0.002***	0.105	-0.006	0.001
	(-2.63)			(-3.18)	(0.90)	(-1.35)	(0.45)
Classical	-0.024***			-0.014**	-0.032	-0.015**	0.003
	(-6.45)			(-2.10)	(-1.45)	(-2.62)	(0.54)
TD	-0.001**	-0.285**	-0.201	-0.091*	-0.002**	-0.031***	-0.026
	(-2.20)	(-3.00)	(-0.66)	(-1.74)	(-1.93)	(-4.61)	(-1.60)
LTBLev	-0.022***	-0.486**	-0.825***	-0.021***	-0.618***	-0.647***	-0.388***
	(-15.56)	(-2.62)	(-2.61)	(-7.96)	(-5.98)	(-5.68)	(-3.50)
MB	0.006***	0.018***	0.011***	0.001	0.008***	0.003**	0.009***
	(8.14)	(6.86)	(4.28)	(0.89)	(4.34)	(2.23)	(6.27)
Size	-0.027***	-0.014**	-0.024***	-0.027***	-0.024***	-0.018***	-0.038***
	(-15.76)	(-1.99)	(-3.49)	(-7.08)	(-5.10)	(-5.18)	(-13.04)
AB	0.103	0.571***	0.015	0.057*	-0.072	0.068**	-0.002
	(0.27)	(3.80)	(0.06)	(1.80)	(-0.75)	(2.34)	(-0.07)
ROA	-0.367***	-0.363*	-0.198***	-0.363***	0.219***	0.306***	0.011
	(-4.12)	(-1.70)	(-5.59)	(-3.79)	(8.19)	(10.11)	(0.42)
AM	-0.061***	-0.162***	-0.052*	-0.079***	-0.063***	-0.067***	-0.071***
	(-11.03)	(-5.60)	(-1.90)	(-7.09)	(-4.76)	(-5.74)	(-6.99)
TS	0.002*	-0.007	-0.016	-0.009*	-0.014	-0.013***	-0.003
	(-1.79)	(-0.97)	(-1.32)	(-1.88)	(-1.19)	(-4.02)	(-0.91)
WW Index	0.118**	0.686***	0.859***	0.195**	0.257**	0.042***	0.247
	(3.05)	(4.40)	(5.20)	(2.27)	(2.39)	(3.54)	(1.47)
Div-dummy	-0.104***	-0.165***	-0.143***	-0.116***	-0.150***	-0.095	-0.065
	(-27.69)	(-10.73)	(-6.91)	(-14.00)	(-13.61)	(-1.97)	(-1.36)
Z-score	-0.015***						
	(-7.32)						
Bank Dep.	0.000***	0.005	-0.013***	0.000	0.001**	0.000***	0.000
	(8.70)	(1.65)	(-2.60)	(1.57)	(2.88)	(3.33)	(1.15)
Bank Credit	-0.000***	-0.006	-0.001	-0.000	-0.001**	-0.001**	-0.002
	(-5.19)	(-1.66)	(-0.32)	(-0.26)	(-2.21)	(-2.00)	(-0.79)
Ins. Prem.	0.002	0.003	0.003	0.001	0.001	0.000	0.002
	(1.01)	(0.75)	(0.38)	(0.78)	(0.24)	(0.21)	(1.55)
Bond Cap.	-0.000	-0.002	0.003	-0.001	0.000	0.000	0.000***
	(-1.38)	(-0.01)	(1.60)	(-0.48)	(0.57)	(0.87)	(2.56)
Inter. Debt	-0.000	-0.003	-0.001	0.000	-0.002	-0.001***	-0.001**
	(-1.03)	(-1.42)	(-0.02)	(1.20)	(-0.04)	(-2.92)	(2.44)
Stock Traded	-0.000***	0.000	0.000	0.001**	0.000	-0.000*	0.000
	(-4.28)	(1.13)	(1.66)	(1.81)	(0.55)	(-1.91)	(1.20)
Inflation	-0.001	-0.005	-0.007	-0.002	-0.009	0.010***	-0.004
	(-0.44)	(-0.94)	(-1.05)	-(0.59)	(-1.40)	(3.79)	(-1.53)
Domestic Savings	-0.017	-0.086	-0.080	-0.020	-0.119	-0.002	-0.000
	(-0.74)	(-1.03)	(-0.64)	(-0.41)	(-1.54)	-(0.05)	(-0.01)
Ind. Med	-0.519***	-0.213***	-0.252***	-0.433***	-0.310***	-0.629***	-0.460***
	(-10.05)	(-5.52)	(-4.85)	(-8.49)	(-12.94)	(-6.88)	(-7.75)
Constant	1.489***	1.222***	1.786***	1.543***	1.801***	1.242***	1.300***
	(5.27)	(5.54)	(3.57)	(4.23)	(8.97)	(3.73)	(3.48)
p-Hausman test	0.000	0.000	0.000	0.000	0.000	0.000	0.000
R2-adjusted	0.32	0.24	0.38	0.25	0.35	0.24	0.36
N	86,659	8,704	3,634	20,918	7,845	31,583	14,628

	All	US		ROW - Strong inv.p		ROW - Weak inv.p	
		Healthy	Distressed	Healthy	Distressed	Healthy	Distressed
Panel B. Dependant variable is LTBLev: Long-term Debt/(Long-term Debt + Book Value of Equity)							
Inv.p	0.055***						
	(12.30)						
CR	0.002**			0.007**	0.028**	0.006***	0.002
	(3.01)			(2.38)	(1.97)	(5.34)	(0.84)
Classical	0.007***			0.006	0.027	0.006*	0.005
	(4.10)			(0.35)	(0.66)	(2.54)	(1.41)
TD	0.039***	0.026	0.095*	0.007**	-0.085	0.084***	0.003
	(8.66)	(0.39)	(1.80)	(2.32)	(-1.02)	(13.00)	(0.28)
STDR	-0.268***	-0.378***	-0.098	-0.132***	-0.206***	-0.255***	-0.109***
	(-8.14)	(-10.18)	(-1.75)	(-7.37)	(-7.38)	(-15.70)	(-4.73)
MB	-0.027***	-0.004***	-0.007***	-0.031***	-0.021**	-0.031***	-0.032***
	(-8.82)	(-4.06)	(-4.83)	(-5.40)	(-2.10)	(-5.36)	(-5.00)
Size	0.045***	0.078***	0.046***	0.028***	0.030***	-.052***	0.044***
	(5.84)	(3.85)	(12.29)	(16.64)	(12.09)	(5.67)	(3.36)
ROA	-0.423***	-0.308**	-0.373***	-0.310***	-0.306**	-0.470***	-0.419
	(-8.47)	(-2.39)	(-2.22)	(-9.29)	(-2.56)	(-7.63)	(-1.52)
Tg	0.088***	0.082***	0.035*	0.045***	0.083***	0.150***	0.031
	(21.36)	(6.23)	(1.75)	(6.18)	(7.21)	(19.69)	(0.91)
WW Index	-1.349***	-1.833***	-1.463***	-0.895***	-1.246***	-1.299***	-1.602***
	(-72.26)	(-34.11)	(-16.51)	(-24.10)	(-22.59)	(-39.21)	(-25.05)
Div-dummy	0.174***	0.239***	0.221***	0.150***	0.198***	0.162***	0.170
	(9.23)	(4.56)	(9.35)	(4.15)	(33.83)	(5.92)	(1.31)
Z-score	0.023***						
	(8.04)						
Bank Dep.	-0.000***	-0.005	-0.010***	0.000	-0.001	-0.002***	0.000
	(-5.99)	(-1.47)	(-3.71)	(0.63)	(-0.06)	(-8.08)	(0.02)
Bank Credit	0.000**	0.004**	0.002	0.000**	0.000	0.001***	0.000
	(2.24)	(2.63)	(0.65)	(2.16)	(0.76)	(2.60)	(1.64)
Ins. Prem.	-0.000	-0.003**	-0.000	0.000	0.002	0.000	0.001
	(-1.09)	(-1.96)	(-0.04)	(0.40)	(1.59)	(0.96)	(1.05)
Bond Cap.	0.000***	0.001**	0.002	0.000**	-0.000	0.000***	-0.000**
	(5.76)	(2.22)	(1.51)	(2.26)	(-0.96)	(6.68)	(-1.86)
Inter. Debt	0.000***	0.000	-0.003*	0.000**	0.000*	0.000***	0.000***
	(3.64)	(0.26)	(-2.02)	(2.20)	(1.89)	(6.89)	(2.72)
Stock Traded	0.000***	-0.000**	-0.000	0.000***	0.000	0.000***	0.000
	(4.67)	(-2.61)	(-0.99)	(4.48)	(0.16)	(7.21)	(1.08)
Inflation	-0.002***	-0.007***	-0.006*	-0.002	0.003	-0.010***	-0.008***
	(-2.77)	(-2.96)	(-1.71)	(-1.32)	(0.94)	(-9.21)	(-4.53)
Domestic Savings	0.030)	0.025	0.132	0.032	0.045	0.027	0.044
	(0.76)	(0.77)	(1.04)	(1.54)	(1.12)	(1.44)	(1.38)
Ind. Med	0.327***	0.291***	0.180***	0.396***	0.283***	0.297***	0.154***
	(5.06)	(11.49)	(4.19)	(7.80)	(3.61)	(3.85)	(5.75)
Constant	0.036***	-0.216	-0.524	0.084*	-0.202**	0.243***	-0.241***
	(3.68)	(1.38)	(1.96)	(1.91)	(-1.97)	(14.64)	(-9.96)
p-Hausman test	0.000	0.000	0.000	0.000	0.000	0.000	0.000
R2-adjusted	0.30	0.20	0.33	0.28	0.42	0.26	0.30
N	89,402	8,251	3,739	21,710	8,409	32,319	14,974

Panel C. Interaction Effects		
Dependent variable	**STDR**	**LTBLev**
Inv.p*Classical	-0.118***	0.079***
	(-7.61)	(8.99)
Inv.p*TD	-0.141***	0.031
	(-2.94)	(1.14)
CR* Classical	-0.005	0.061***
	(-1.54)	(10.13)
CR*TD	0.021	0.011
	(1.52)	(0.99)
Inv.p	-0.012	0.006
	(-1.17)	(1.04)
CR	-0.003*	0.002*
	(-1.72)	(1.78)
Classical	-0.023**	0.032***
	(-2.35)	(5.50)
TD	0.003	0.084***
	(0.11)	(5.23)
Controls	Yes	Yes
p-Hausman test	0.000	0.000
R2-adjusted	0.30	0.38
N	86,659	89,402

The table presents the fixed effects regression results based on two-stage simultaneous equations of short-term debt over total debt, *STDR*, (Panel A) and long-term debt/(long-term debt + equity at book value), *LTBLev*, (Panel B). The results of the two-stage procedure to generate the estimated book value of leverage (*LTBLev*) in Panel A and short-term debt maturity (*STDR*) in Panel B are not reported for space considerations. Following Dang (2011), in Panel A, the instruments for the book value of leverage include non-debt tax shields, tangibility, and profitability. In Panel B, the instruments for short-term debt maturity include asset maturity and term structure of interest rates. All regressions control for time effects. Panel C reports the interaction of governance and taxation on short-term debt maturity (*STDR*) and leverage (*LTBLev*). The overall sample included 134,794 firm-year observations from 24 OECD countries from 1990 to 2011. *All* is for the sample as a whole. *ROW* is for Rest of the World (excluding the US). We follow Alzahrani and Lasfer (2012) and classify ROW countries into strong (weak) investor protections if its anti-self-dealing index score, as reported by Djankov et al. (2008), is above (below) the mean anti-self-dealing index score of the sample. We use Z-score to measure financial distress and consider firms with Z values below 1.80 to be financially distressed. The remaining variables are defined in Appendix 1. We report the p-value of Hausman test to test the null hypothesis that the coefficients estimated by the efficient random effects estimator are the same as the ones estimated by the consistent fixed effects estimator. The *t*-statistics are in parentheses. *, **, and *** indicate significance at 10%, 5%, and 1% levels, respectively.

Table 4: Probit Regressions

	All		US				ROW - Strong investor protection				ROW - Weak investor protection			
	All	ME	Healthy	ME	Distressed	ME	Healthy	ME	Distressed	ME	Healthy	ME	Distressed	ME
Panel A: Dummy = 1 for increase Short-term debt maturity														
Inv.p	-0.102***	-0.04***												
	(-2.63)	(-2.63)												
CR	-0.014**	-0.01**					-0.141***	-0.06***	-0.101	-0.040	-0.002	-0.000	-0.026*	-0.010*
	(-2.31)	(-2.31)					(-3.23)	(-3.23)	(-1.15)	(-1.15)	(-0.20)	(-0.20)	(-1.76)	(-1.76)
Classical	-0.030**	-0.11**					-0.320**	-0.12**	-0.371**	-0.145**	-0.022*	-0.008*	0.031	0.012
	(-1.97)	(-1.97)					(-2.08)	(-2.08)	(-1.95)	(-1.95)	(-1.93)	(-1.93)	(0.90)	(0.90)
TD	-0.064**	-0.02**	-0.609**	-0.24**	-0.257	-0.102	-0.327**	-0.130**	-0.247	-0.098	-0.032*	-0.012*	-0.002	-0.001
	(-2.16)	(-2.16)	(-2.33)	(-2.33)	(-0.37)	(-0.37)	(-2.24)	(-2.24)	(-1.11)	(-1.11)	(-1.72)	(-1.72)	(-0.03)	(-0.03)
LTBLev	-0.604***	-0.24***	-0.781***	-0.31***	-0.640***	-0.25***	-0.909***	-0.36***	-0.482***	-0.19***	-0.827***	-0.33***	-0.662***	-0.26***
	(-3.95)	(-3.95)	(-8.97)	(-8.97)	(-6.94)	(-6.94)	(-4.79)	(-4.79)	(-6.42)	(-6.42)	(-15.88)	(-15.88)	(-11.76)	-(11.76)
MB	0.013***	0.01***	0.002**	0.006**	0.000**	0.000**	0.017***	0.006***	0.008	0.004	0.045***	0.018***	0.020***	0.007***
	(5.28)	(5.28)	(2.22)	(2.22)	(2.01)	(2.01)	(3.21)	(3.21)	(1.13)	(1.13)	(8.24)	(8.24)	(2.59)	(2.59)
Size	-0.002	-0.00	-0.005	-0.002	-0.029**	-0.01**	-0.005	-0.001	-0.025***	-0.01***	-0.006	-0.002	-0.010*	-0.004*
	(-0.66)	(-0.66)	(-0.64)	(-0.64)	(-2.52)	(-2.52)	(-0.91)	(-0.91)	(-3.24)	(-3.24)	(-1.44)	(-1.44)	(-1.76)	(-1.76)
AB	0.356**	0.14***	0.143	0.056	0.966	0.385	0.316	0.125	-0.153	-0.061	0.432**	0.172**	-0.553**	-0.22**
	(3.02)	(3.02)	(0.35)	(0.35)	(1.29)	(1.29)	(1.18)	(1.18)	(-0.38)	(-0.38)	(2.27)	(2.27)	(-2.12)	(-2.12)
ROA	-0.122***	-0.05***	-0.070	-0.027	-0.253**	-0.10**	-0.129	-0.051	-0.004	-0.002	-0.444***	-0.17***	-0.454***	-0.18***
	(-3.24)	(-3.24)	(-0.75)	(-0.75)	(-2.15)	(-2.15)	(-1.53)	(-1.53)	(-0.04)	(-0.04)	(-4.00)	(-4.00)	(-3.41)	(-3.41)
AM	-0.179***	-0.07***	-0.268***	0.106***	-0.042	-0.016	-0.042	-0.016	-0.105*	-0.042*	-0.389***	-0.15***	-0.297***	-0.12***
	(-8.67)	(-8.67)	(-3.82)	(3.82)	(-0.52)	(-0.52)	(-1.06)	(-1.06)	(-2.02)	(-2.02)	(-8.69)	(-8.69)	(-5.51)	(-5.51)
TS	-0.004	-0.001	-0.028	-0.011	-0.017	-0.007	-0.001	-0.001	-0.014	-0.005	0.010	0.003	-0.013	-0.005
	(-0.74)	(-0.74)	(-1.50)	(-1.50)	(-0.51)	(-0.51)	(-0.12)	-(0.12)	(-0.75)	(-0.75)	(0.91)	(0.91)	(-0.85)	-(0.85)
Z-score	-0.025***	-0.01***	-0.000	-0.002	-0.012	-0.004	-0.031**	-0.011**	-0.003	-0.001	-0.051***	-0.02***	-0.085***	-0.03***
	(-9.79)	(-9.79)	(-0.02)	(-0.02)	(-0.49)	(-0.49)	(-2.10)	(-2.10)	(-0.16)	(-0.16)	(-3.35)	(-3.35)	(-3.86)	-(3.86)
Bank Dep.	-0.000*	-0.00*	0.003	0.001	-0.024*	-0.009*	0.001**	0.001**	0.000	0.000	0.001**	0.002**	-0.001	0.000
	(-1.76)	(-1.76)	(0.35)	(0.35)	(-1.73)	(-1.73)	(2.06)	(2.06)	(0.32)	(0.32)	(2.40)	(2.40)	(-0.39)	(-0.39)
Bank Cred.	-0.001***	-0.00***	-0.007	-0.002	-0.001	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000**	-0.00**	-0.000	-0.001
	(-6.39)	(-6.39)	(-0.63)	(-0.63)	(-0.05)	(-0.05)	(-0.87)	(-0.87)	(-0.22)	(-0.22)	(-2.60)	(-2.60)	(-1.57)	(-1.57)
Ins. Prem.	0.005**	0.001**	0.008	0.004	0.023	0.009	0.003	0.001	0.012	0.013	0.014***	0.00***	0.001	0.001
	(2.21)	(2.21)	(0.78)	(0.78)	(1.12)	(1.12)	(0.62)	(0.62)	(1.73)	(1.73)	(3.69)	(3.69)	(0.11)	(0.11)
Bond Cap.	0.000	0.000	0.000	0.000	0.008	0.003	0.000	0.000	0.003*	0.001*	0.000	0.000	0.000	0.002
	(0.23)	(0.23)	(0.07)	(0.07)	(1.36)	(1.36)	(0.34)	(0.34)	(1.71)	(1.71)	(0.08)	(0.08)	(0.09)	(0.09)
Inter. Debt	-0.000	-0.001	-0.012**	-0.00**	-0.006	-0.001	-0.000	-0.000	-0.001	-0.000	-0.001**	-0.001**	-0.001*	-0.001*
	(-0.87)	(-0.87)	(-2.01)	(-2.01)	(-0.61)	(-0.61)	(-0.24)	(-0.24)	(-1.43)	(-1.43)	(-2.16)	(-2.11)	(-1.76)	(-1.76)

Stock Trad	0.000	0.000	0.001	0.001	0.001	0.002	0.000	0.001	-0.001**	-0.00**	0.001***	0.000***	0.000	0.000
	(1.14)	(1.14)	(1.39)	(1.39)	(1.33)	(1.33)	(0.29)	(0.29)	(-2.32)	(-2.32)	(2.96)	(2.96)	(0.19)	(0.19)
Inflation	0.003	0.001	-0.009	-0.003	0.027	0.017	0.010	0.038	0.013	0.005	-0.022*	-0.008*	0.007	0.002
	(0.77)	(0.77)	(-0.53)	(-0.53)	(1.27)	(1.27)	(1.08)	(1.08)	(0.85)	(0.85)	(-2.42)	(-2.42)	(0.52)	(0.52)
Domestic	-0.068	-0.027	-0.307	-0.122	0.313	0.125	-0.118	-0.118	-0.198	-0.087	-0.368***	-0.15***	0.179	0.074
Savings	(-1.03)	(-1.03)	(-1.28)	(-1.28)	(0.81)	(0.81)	(-0.90)	-(0.90)	(-0.95)	(-0.95)	(-2.94)	(-2.94)	(0.97)	(0.97)
Ind. Med	-0.220***	-0.09***	-0.221*	-0.088*	-0.239	-0.095	-0.218***	-0.09***	-0.249**	-0.10**	-0.298***	-0.12***	-0.303***	-0.12***
	(-8.32)	(-8.32)	(-2.09)	-(2.09)	(-1.56)	-(1.56)	(-3.65)	(-3.65)	(-2.62)	(-2.62)	(-6.02)	(-6.02)	(-4.36)	(-4.36)
Constant	0.210***		1.031		-0.434		1.609***		0.979		0.431***		0.401***	
	(4.66)		(0.88)		(-0.27)		(4.93)		(1.56)		(4.61)		(3.04)	
Pseudo R^2	0.06		0.07		0.04		0.08		0.07		0.07		0.06	
p-LR λ2	0.000		0.000		0.000		0.000		0.000		0.000		0.000	
N	91,898		9,579		4,186		22,221		8,812		31,916		15,184	

Panel B: Impact of interaction of governance and taxation				
	All	ME	All (ROW)	ME
1=increased short-term debt maturity, 0=decreased short-term debt maturity				
Inv.p*Classical	-0.375***	-0.087***	-0.153**	-0.052**
	(-2.86)	(-2.73)	(-2.42)	(-2.14)
Inv.p*TD	-0.602*	-0.147*	-1.026**	-0.190*
	(-1.78)	(-1.80)	(-2.50)	(-1.90)
Inv.p	-0.702***	-0.168***	-1.083***	-0.212***
	(2.61)	(2.59)	(3.28)	(2.63)
Classical	0.148	0.034	0.078	0.025
	(1.22)	(1.13)	(1.01)	(1.31)
TD	0.217	0.062	0.395**	0.082*
	(1.26)	(1.49)	(1.99)	(1.69)
1=increased short-term debt maturity, 0=Maintained short-term debt maturity				
Inv.p*Classical	-0.450**	-0.005*	-1.537**	-0.270***
	(-2.25)	(-1.69)	(-2.49)	(-2.60)
Inv.p*TD	-0.087	-0.006	-6.890***	-0.107***
	(-0.10)	(-0.27)	(-6.20)	(-5.71)
Inv.p	0.510	0.003	0.09	0.093
	(0.71)	(0.17)	(1.00)	(1.32)
Classical	0.160	0.002	0.582**	0.011**
	(0.84)	(0.42)	(2.37)	(2.44)
TD	0.688	0.018	1.718	0.025
	(1.35)	(1.62)	(1.01)	(1.65)
Controls	Yes		Yes	
N	93,153		79,122	
Pseudo R2	0.08		0.06	

The table presents the results from Probit regressions for the likelihood of increasing short-term debt. The table also reports the marginal effects of coefficients. The overall sample included 134,794 firm-year observations from 24 OECD countries from 1990 to 2011. The dependent variable in Panel A is a dummy equals to 1 if the firm increases short-term debt maturity and zero otherwise. Panel B shows the likelihood of increasing short-term debt versus those firms who decrease and maintain their debt maturity, including the impact of interaction of governance and taxation. *All* is for the sample as a whole. *ROW* is for Rest of the World (excluding the US). We follow Alzahrani and Lasfer (2012) and classify ROW countries into strong (weak) investor protections if its anti-self-dealing index score, as reported by Djankov et al. (2008), is above (below) the mean anti-self-dealing index score of the sample. We use Z-score to measure financial distress and consider firms with Z values below 1.80 to be financially distressed. The remaining variables are defined in Appendix 1. All regressions control time effects. The *t*-statistics are in parentheses. *, **, and *** indicate significance at 10%, 5%, and 1% levels, respectively.

Table 5: Robustness Checks

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Panel A. Dependant variable is STDR: short-term debt/ total debt – Sample All							
Inv.p*Classical	-0.019***	-0.029**	-0.145***	-0.060***	-0.460***	-0.147***	-0.128*
	(-4.10)	(-2.06)	(-9.03)	(-3.22)	(-3.96)	(-5.34)	(-1.79)
Inv.p*TD	-0.024***	-0.027***	-0.044***	-0.012***	-0.321*	-0.050***	-0.192**
	(-3.36)	(-2.84)	(-2.84)	(-3.24)	(-1.94)	(-2.61)	(-2.37)
CR* Classical	-0.016	-0.004	-0.002	-0.006*	0.028	0.002	-0.005
	(-1.19)	(-0.13)	(-0.52)	(-1.86)	(0.78)	(0.42)	(-0.04)
CR*TD	-0.025***	-0.012*	-0.010	-0.009**	-0.001**	-0.005	-0.479***
	(3.58)	(1.74)	(-1.56)	(2.10)	(-2.18)	(-1.25)	(-3.18)
CR	-0.004***	-0.008	-0.001	-0.007***	-0.186***	-0.002***	-0.054***
	(-3.04)	(-0.49)	(-0.68)	(-3.79)	(-3.57)	(-3.52)	(-3.00)
Inv.p	-0.007**	-0.007	-0.021**	-0.010	-0.093	-0.016	-0.057
	(-2.51)	(-0.74)	(-1.95)	(-0.92)	(-0.14)	(-0.86)	(-0.53)
Classical	-0.108***	-0.002	-0.043***	0.009	-0.094	-0.044	-0.094
	(-6.15)	(-0.03)	(-4.18)	(0.91)	(-1.16)	(-0.02)	(-1.52)
TD	-0.072***	-0.016	-0.053*	-0.056**	-0.140	-0.050	-0.002
	(-3.05)	(-0.79)	(-1.79)	(-1.92)	(-1.41)	(-1.11)	(-0.05)
Z-score[Hazard]	-0.018***	-0.093***	[0.052]***	-0.010***	-0.028***	-0.020***	-0.022***
	(-5.89)	(-4.42)	(8.58)	(-8.12)	(-3.89)	(-6.88)	(-4.17)
Z-scoredev							0.021
							(38.11)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R2-adjusted	0.30	0.49	0.30	0.32		0.30	
AR(1)/AR(2)					0.048/0.11		
Sargan test					0.103		
p-value (Wald)							0.000
N	95,127	397	95,127	106,599	90,505	95,127	86,659
Panel B. Dependant variable is LTBLev: Long-term Debt/(Long-term Debt + Book Value of Equity)							
Inv.p*Classical	0.019***	0.003***	0.282***	0.038***	0.150***	0.095***	0.335***
	(3.66)	(6.25)	(18.07)	(3.74)	(12.50)	(5.45)	(6.79)
Inv.p*TD	0.002	0.032**	0.203***	0.143***	0.009	-0.043	0.022
	(0.31)	(2.26)	(4.16)	(4.98)	(0.62)	(-0.83)	(0.45)
CR* Classical	0.013***	0.003***	0.006*	0.006***	0.250***	-0.004	0.027***
	(3.59)	(2.76)	(1.84)	(3.18)	(9.23)	(-1.04)	(3.31)
CR*TD	0.025***	0.012**	0.054***	0.001	0.045**	0.032***	0.053***
	(3.20)	(1.98)	(2.94)	(0.54)	(1.95)	(3.00)	(5.80)
CR	0.005	0.001**	0.004	0.001	0.047	0.004	0.003
	(1.00)	(2.23)	(0.25)	(1.22)	(1.85)	(1.06)	(0.40)
Inv.p	0.006*	0.017***	0.122***	0.065***	0.212***	0.013	0.023***
	(1.76)	(4.35)	(11.24)	(11.13)	(12.98)	(1.06)	(3.81)
Classical	0.091***	0.011***	0.120***	0.006	0.004	0.026**	0.320***
	(4.72)	(3.13)	(11.71)	(1.00)	(0.52)	(2.30)	(6.07)
TD	0.143***	0.030***	0.289***	0.042***	0.019***	0.140***	0.115***
	(6.29)	(3.33)	(10.14)	(2.65)	(2.85)	(4.79)	(3.85)
Z-score[Hazard]	0.020***		[-0.04]***	0.038**	0.029***	0.021***	0.040***
	(3.89)		(-6.52)	(2.25)	(6.58)	(4.88)	(12.65)
Z-score[dev							0.047
							(37.44)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	
R2-adjusted	0.38	0.55	0.24	0.45		0.38	
AR(1)/AR(2)					0.098/1.25		
Sargan test					0.201		
p-value (Wald)							0.000
N	103,149	423	103,151	103,151	86,391	103,149	89,3379

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Panel C. Dependant variable is STDR: short-term debt/ total debt – Healthy Firms							
Inv.p*Classical	-0.024***	-0.013***	-0.169***	-0.152***	-0.177***	-0.0125***	-0.079***
	(-3.45)	(-5.25)	(-10.13)	(-8.07)	(-3.20)	(-2.58)	(-2.88)
Inv.p*TD	-0.031**	-0.009**	-0.014**	-0.003**	-0.012**	-0.008**	-0.074***
	(-8.10)	(-2.12)	(-2.26)	(-2.06)	(-2.42)	(-1.99)	(-3.02)
CR* Classical	-0.008***	-0.006*	-0.004	-0.012***	-0.076*	-0.052**	-0.008
	(-3.58)	(-1.93)	(-1.18)	(-2.78)	(-1.86)	(-2.22)	(-0.45)
CR*TD	-0.060***	-0.025**	-0.062***	-0.053***	-0.086**	-0.62**	-0.041***
	(-4.58)	(-2.35)	(-5.42)	(-4.30)	(-2.29)	(-2.45)	(-2.28)
CR	-0.001**	-0.010**	0.007	-0.005**	-0.008***	-0.010***	-0.022
	(-2.12)	(-1.99)	(0.37)	(-2.35)	(-2.73)	(-4.58)	(-1.23)
Inv.p	-0.015	-0.010***	-0.068***	-0.035***	-0.079***	-0.045**	-0.028
	(-1.40)	(-3.01)	(-5.83)	(-2.62)	(-2.96)	(-2.00)	(-0.28)
Classical	-0.040**	-0.025***	-0.040***	-0.031**	-0.051	-0.035*	-0.042***
	(-2.57)	(-4.25)	(-3.78)	(-2.57)	(-0.21)	(-1.75)	(-2.58)
TD	-0.038	-0.020*	-0.074***	-0.062*	-0.072	-0.054	-1.892***
	(-1.28)	(-1.79)	(-4.49)	(-1.80)	(-0.65)	(-1.25)	(-6.51)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R2-adjusted	0.31	0.39	0.35			0.28	
AR(1)					0.052		
AR(2)					0.237		
Sargan test					0.123		
p-value (Wald)							0.000
N	67,544	397	76,472	67,544	62,942	65,865	60,575
Panel D. Dependant variable is LTBLev – Healthy Firms							
Inv.p*Classical	0.012***	0.002***	0.050***	0.010**	0.018***	0.036***	0.238***
	(4.96)	(3.01)	(4.76)	(2.58)	(4.15)	(3.58)	(4.32)
Inv.p*TD	0.020***	0.004***	0.132***	0.059***	0.055***	0.045**	0.083**
	(3.97)	(2.98)	(3.76)	(3.58)	(5.45)	(2.47)	(1.85)
CR* Classical	0.001	0.002	0.005	0.008*	0.015**	0.010**	0.016*
	(0.60)	(1.02)	(0.36)	(1.70)	(2.45)	(1.98)	(1.69)
CR*TD	0.049***	0.007**	0.079***	0.068**	0.078***	0.058**	0.067***
	(6.41)	(2.00)	(9.73)	(8.58)	(5.55)	(1.99)	(6.65)
CR	0.003**	0.008**	0.004***	0.005**	0.0019**	0.009***	0.024
	(2.11)	(1.98)	(2.89)	(2.24)	(1.99)	(3.41)	(2.55)
Inv.p	0.030***	0.010*	0.040***	0.038***	0.051***	0.028**	-0.002
	(4.23)	(1.75)	(5.09)	(6.58)	(8.45)	(2.14)	(-0.04)
Classical	0.037***	0.002**	0.027***	0.020***	0.019***	0.019***	0.138***
	(4.02)	(1.99)	(4.06)	(3.12)	(4.78)	(2.99)	(3.04)
TD	0.096***	0.019***	0.160***	0.088**	0.102**	0.090**	0.123**
	(5.85)	(2.65)	(8.35)	(2.45)	(2.00)	(2.01)	(2.34)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R2-adjusted	0.26	0.59	0.27	0.20		0.25	
AR(1)/AR(2)					0.120/0.214		
Sargan test					0.193		
p-value (Wald)							0.000
N	71,140	423	79,179	71,140	59,649	71,140	62,280

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Panel E. Dependant variable is STDR: short-term debt/ total debt – Distressed firms							
Inv.p*Classical	-0.025***	-0.044***	-0.114***	-0.150***	-0.278**	-0.178***	-0.486***
	(-3.35)	(-4.25)	(-2.95)	(-5.50)	(-2.26)	(-4.52)	(-3.28)
Inv.p*TD	-0.016	-0.161**	-0.656*	-0.485	0.423	-0.532	-0.379***
	(-1.23)	(-2.16)	(-1.87)	(-1.36)	(0.25)	(-1.25)	(-2.60)
CR* Classical	-0.010	-0.014**	-0.020	-0.023	-0.027*	-0.011	0.022
	(-0.58)	(-2.21)	(-1.11)	(-0.58)	(-1.85)	(-1.20)	(1.17)
CR*TD	-0.083***	0.017	-0.013	-0.022***	0.017	-0.075**	-0.076***
	(-4.25)	(1.05)	(-0.50)	(-3.19)	(0.22)	(-2.54)	(-2.80)
CR	-0.003	0.002	-0.019***	-0.004	-0.015**	-0.001**	-0.078***
	(-1.39)	(0.58)	(-3.84)	(-1.40)	(-2.36)	(-2.42)	(-3.18)
Inv.p	-0.019***	-0.028**	-0.015***	0.011	-0.041***	-0.035**	-0.173
	(-4.31)	(-2.35)	(-3.98)	(0.63)	(-3.15)	(-1.98)	(-1.23)
Classical	-0.042***	-0.032	-0.040	-0.043**	-0.025	0.061	-0.265***
	(-5.02)	(-1.22)	(-0.15)	(-2.35)	(-0.84)	(-1.12)	(-3.01)
TD	-0.139**	0.042	-0.349***	-0.111**	-0.110	-0.440	0.014
	(-2.19)	(0.54)	(-4.24)	(-2.08)	(-0.46)	(-0.64)	(0.15)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R2-adjusted	0.34	0.45	0.19	0.38		0.35	
AR(1)/AR(2)					0.023/0.118		
Sargan test					0.130		
p-value (Wald)							0.000
N	30,489	390	21,561	30,489	27,563	29,262	26,107
Panel F. Dependant variable is LTBLev: Long-term Debt/(Long-term Debt + Book Value of Equity)expect estimation (2)where we use Long-term Debt/(Long-term Debt + Market Value of Equity – Distressed firms							
Inv.p*Classical	0.002	0.001	0.006	0.001	0.008	0.005	0.542
	(0.51)	(0.53)	(0.30)	(1.25)	(0.990	(1.00)	(0.25)
Inv.p*TD	0.010	0.004	0.104	0.058	0.040*	0.035	0.035
	(1.25)	(0.91)	(1.50)	(1.25)	(1.75)	(0.25)	(0.32)
CR* Classical	0.002	0.003	0.008	0.001	0.005	0.000	0.064***
	(0.45)	(0.75)	(1.44)	(1.35)	(1.04)	(1.25)	(4.19)
CR*TD	0.030**	0.019*	0.008	0.010	0.008*	0.009	0.071***
	(2.08)	(1.71)	(0.54)	(1.25)	(1.74)	(0.98)	(3.36)
CR	0.002	0.012*	0.005*	0.008**	0.017**	0.015**	0.032
	(0.89)	(1.68)	(1.84)	(2.21)	(1.98)	(2.11)	(1.51)
Inv.p	0.021***	0.018**	0.012**	0.010***	0.024***	0.008*	-0.082
	(4.35)	(2.54)	(2.49)	(3.25)	(4.52)	(1.94)	(-0.67)
Classical	0.022	0.009	0.016	0.008	0.019	0.002	0.324
	(1.57)	(1.33)	(1.00)	(0.58)	(1.28)	(0.78)	(1.21)
TD	0.071**	0.039	0.070**	0.068*	0.052**	0.051	0.054***
	(2.15)	(1.17)	(1.95)	(1.78)	(2.05)	(1.58)	(2.87)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R2-adjusted	0.30	0.49	0.28	0.30		0.35	
AR(1)/AR(2)					0.078/0.142		
Sargan test					0.111		
p-value (Wald)							0.000
N	32,300	416	24,261	32,300	26,742	32,300	27,122

This table reports robustness checks: Panels A and B report the results for the sample as a whole. Panels C and D (E and F) report the results for healthy (distressed) firms. We use a two-stage procedure. The results in the first stage used to generate the estimated values of long-term book value of leverage (*LTBLev*) when the dependent variable is short-term debt maturity (*STDR*) and the estimated values of short-term debt maturity when the dependent variable is leverage. We report the results of the second stage using different strategies. In Equation (1) we use an alternative measure for investor protection, namely the revised measure of anti-directors rights from Spamann (2010) and classify countries into strong (weak) investor protections if its anti-directors rights are above (below) the mean anti-directors rights of the sample. In Equation (2) we run country-level regressions using 448 country-year (mean) observations from 24 countries over the period from 1990 to 2011. In Equations (1), (2), and (4) to (6) we use Z-score below 1.80 to define financially distressed firms, but in Equation (3) we use the Mehran and Prestiani's (2010) and Bharath and Dittmar's (2010) hazard rate. Companies are classified as healthy (distressed) if the hazard rate is below (above) the sample mean. In Equation (4), we include country-level institutional ownership over total market capitalisations, *Ins. Ownership*. In Equation (5), we use an alternative statistical approach (GMM-system), with, in Panels A, C, and E the first lagged short term debt maturity is included, *L.STDR*, and we use the second lagged debt short-term debt maturity as an instrument for short-term debt maturity. In Panels B, D, and F, we include the first lagged long-term book leverage, *L.LTBLev*. We use the second lagged long-term book leverage as an instrument for the first lagged long-term leverage. In Equation (5), following Dam (2011), we use lagged control variables as instruments to yield better fit. We report p-values for AR (1) and AR (2) to test the first-order and second-order serial correlation under the null hypothesis of no first-order and second-order serial correlation, respectively. We report *p-values* of Sargan test to test for over-identifying restrictions under the null hypothesis of valid instruments. In Equation (6), the standard errors are clustered at the firm level to control for heteroscedasticity and serial correlation of errors (Peterson, 2009). In Equation (7), we estimate the hierarchical linear model (HLM) specification where, for firm level variables, we consider firm-level deviations and country-level means. For country-level variables, we consider grand-mean centred country-level deviations. The remaining variables are defined in Appendix 1. All regressions include time and firm effects. The t-statistics are in parentheses.*, **, and *** indicate significance at 10%, 5%, and 1% levels, respectively.

Appendix 1: Definitions of Variables

Variables	Description	Source
Inv.p	The score of anti-self-dealing index. The higher the score, the higher the level of investor protection	Djankov et al. (2008)
CR	Creditor rights index	Djankov et al. (2007)
Classical	A dummy variable equal to one if the firm located in a country that adopts classical tax system	Alzahrani and Lasfer (2012), OECD tax database
TD	Tax discrimination based on Miller (1977), computed as =1-[(1-stautory corporate tax)*(1-highest effective personal tax rate on equity)/(1-highest statutory personal tax rate on interest)]	OECD tax database (www.oecd.org/ctp/taxdatabase), World's Highest Marginal Tax Rate on Global Finance website
LTBLev	Long-term debt/ Long-term debt + Book value of equity	DataStream
Div-dummy	A dummy variable that takes the value 1 if the firm pays dividends and 0 otherwise.	DataStream
WW index	We follow Whited and Wu (2006) and compute WW index as: *-0.091Cash Flow-0.062Div+,0.021LTDTD-0.044Size_0.0102ISG-0.035SG*, where *WW-Cash Flow* is operating income plus depreciation divided by beginning-of-period total assets .*WW-Div* is an indicator that takes the value of one if the firm pays cash dividend. *WW-LTDTD* is the ratio of long-term debt over total assets. *WW-Size* is the natural logarithm of total assets. *WW-ISG* is the firm's 3-digit industrysales growth. *WW-SG* is firm sales growth	DataStream
Z-score	1.2(working capital/total assets)+1.4(retained earnings/total assets)+3.3(earnings before interest and taxes/total assets)+0.6(market value of equity/ book value of total liabilities)+0.999(sales/total assets)	Eisdorfer (2008) and DataStream
MB	Market to book ratio	DataStream
Size	Log of market capitalisation	DataStream
AB	Abnormal earnings = $(EPS_{t+1} - EPS_t)/ SP_t$	DataStream
ROA	Return on assets = EBIT/Total Assets	DataStream
AM	Asset Maturity = PPE/ Depreciation	DataStream
Tg	Tangibility= Fixed Assets/ Total Assets	DataStream
NDTS	Non-debt tax shields= Depreciation/ Total Assets	DataStream
Ind. Med	Yearly industry median of debt maturity	DataStream
TS	Term structure = $BY_{10y} - BY_{3m}$ where BY is treasury bill or interbank rate if data not available	DataStream
Bank Dep.	Bank deposits to GDP	World Bank, FSD
Bank Credit	Bank credit to bank deposits	World Bank, FSD
Ins. Prem.	Life and non-life insurance premium volume to GDP	World Bank, FSD
Bond Cap.	Public and private bond market capitalisation to GDP	World Bank, FSD
Inter. Debt	International debt issues to GDP	World Bank, FSD
Loans	Loans from non-resident banks to GDP	World Bank, FSD
Stock Traded	Total value of stock traded to GDP	Economic and Social Data Service, International Financial Statistics
Inflation	Annual rate of change on consumer price index	Economic and Social Data Service, International Financial Statistics
Domestic Savings	Gross domestic saving to GDP	Economic and Social Data Service, International Financial Statistics

This table shows the definitions and data sources of both firm- and country-level data. FSD is for Financial Structure Database. All variables are measured in US dollars.

Appendix 2: Descriptive Statistics Ranked by Governance Index and Tax System

Country	N	STDR	Inv.p	CR	TD	LTB Lev	MB	Size	AB	ROA	AM	TS	Bank Dep.	Bank Credit	Ins. Prem.	Bond Cap.	Inter. Debt	Stock Traded	Inflation	Domestic Savings	Ind. Med
Panel A: strong investor protection countries																					
a) Classical																					
Ireland	356	0.29	0.79	1	0.14	0.31	2.71	12.81	0.00	0.04	0.29	1.25	90.04	177.21	7.07	98.60	114.77	24.31	2.83	0.22	0.72
USA	22,037	0.28	0.65	1	0.29	0.22	3.03	11.58	0.00	-0.04	0.26	-0.23	68.74	77.59	6.55	153.97	25.60	201.35	2.55	0.24	0.73
b) Partial Imputation																					
Canada	4,570	0.33	0.64	1	0.23	0.25	2.34	12.28	0.00	0.02	0.44	0.89	117.01	95.93	5.39	86.93	27.27	73.14	2.17	0.25	0.75
Ireland	185	0.36	0.79	1	0.18	0.27	2.19	12.13	0.01	0.08	0.34	0.45	54.04	111.95	7.80	41.77	16.91	30.35	2.26	0.26	0.66
UK	9,956	0.45	0.95	4	0.14	0.20	2.61	11.86	0.00	0.03	0.29	-0.42	0.00	0.00	12.32	50.36	51.94	134.63	2.41	0.23	0.72
c) Full Imputation																					
Australia	29,100	0.31	0.76	3	0.00	0.27	2.64	12.55	0.00	0.02	0.36	0.28	72.88	130.56	6.40	65.15	35.75	77.74	2.83	0.24	0.80
Canada	1,606	0.42	0.64	1	0.23	0.22	1.88	12.55	0.00	0.01	0.46	1.78	0.00	0.00	4.30	91.88	39.41	88.87	1.70	0.13	0.80
New Zealand	856	0.35	0.95	4	0.01	0.26	2.19	11.63	0.00	0.08	0.44	0.39	73.33	142.32	2.91	33.13	9.27	16.76	2.61	0.22	0.70
Panel B: weak investor protection countries																					
a) Classical																					
Austria	1,298	0.47	0.21	3	-0.05	0.26	1.95	11.83	0.00	0.06	0.34	1.11	78.50	116.96	4.57	71.39	30.13	17.31	2.10	0.24	0.54
Belgium	1,272	0.43	0.54	2	-0.18	0.28	2.21	12.15	0.01	0.05	0.30	1.47	80.04	84.04	5.51	123.34	52.79	25.24	2.15	0.23	0.58
Denmark	1,506	0.42	0.46	3	-003	0.24	2.12	11.62	0.00	0.05	0.34	0.76	55.49	162.74	7.43	181.84	25.08	42.25	2.13	0.22	0.59
Germany	1,808	0.42	0.38	3	0.02	0.24	2.02	11.86	0.00	0.03	0.24	1.02	112.98	90.40	5.44	77.20	25.98	54.20	1.53	0.22	0.64
Japan	31,066	0.58	0.50	2	0.04	0.21	1.33	11.80	0.00	0.04	0.32	1.00	200.51	54.12	6.96	196.83	7.10	86.66	-0.21	0.21	0.42
Netherlands	1,024	0.35	0.20	3	0.08	0.27	3.10	13.58	0.00	0.08	0.27	1.03	90.26	213.95	6.30	102.46	80.41	108.11	2.18	0.23	0.66
Poland	2,269	0.56	0.29	1	-0.08	0.14	2.11	10.95	0.00	0.06	0.33	0.37	41.59	51.39	3.24	36.18	10.51	16.44	3.05	0.22	0.42
Portugal	465	0.44	0.44	1	0.13	0.38	2.01	12.20	0.00	0.05	0.35	1.09	95.56	130.27	5.72	70.30	42.98	27.36	2.78	0.23	0.56
Spain	714	0.45	0.37	2	0.04	0.31	2.46	12.99	0.00	0.06	0.35	1.26	122.10	132.04	4.23	83.21	69.17	97.75	2.95	0.21	0.55
Sweden	2,317	0.37	0.33	1	-0.14	0.23	2.77	11.39	0.00	-0.01	0.20	1.15	44.04	140.93	6.90	82.93	42.92	122.80	1.66	0.24	0.69
Switzerland	2,526	0.37	0.27	1	0.25	0.25	2.33	12.64	0.00	0.06	0.33	0.92	124.04	126.93	7.51	61.01	27.28	182.55	1.19	0.23	0.66
b) Partial Imputation																					
Denmark	40	0.41	0.46	3	0.00	0.26	2.06	11.05	0.00	0.05	0.37	0.68	48.25	227.59	6.15	155.20	9.87	33.65	2.46	0.33	0.65
Finland	715	0.39	0.46	1	-0.24	0.26	2.43	12.43	0.00	0.06	0.25	0.84	55.38	152.22	3.59	35.17	48.76	117.58	1.97	0.18	0.63

France	3,608	0.44	0.38	0	0.06	0.22	2.26	11.86	0.00	0.04	0.17	1.47	73.60	141.22	8.91	115.70	62.74	84.92	1.64	0.21	0.61
Germany	2,914	0.46	0.28	3	0.10	0.24	2.24	11.63	0.01	0.03	0.25	0.90	95.85	114.24	5.38	80.97	39.70	70.10	1.65	0.21	0.58
Italy	1,469	0.49	0.42	2	-0.11	0.29	2.04	12.56	0.00	0.04	0.25	1.62	67.08	151.01	6.77	127.67	53.78	50.68	2.06	0.21	0.54
Luxembourg	183	0.35	0.28	1	0.07	0.27	2.07	13.09	0.01	0.10	0.35	2.37	336.10	44.06	5.84	74.06	84.90	15.05	2.41	0.20	0.69
Norway	63	0.20	0.42	2	-0.22	0.41	2.16	11.69	0.00	0.00	0.42	-1.18	46.70	144.53	4.62	34.02	22.18	30.62	3.02	0.17	0.82
Portugal	139	0.43	0.44	1	0.07	0.42	1.98	12.10	0.01	0.03	0.35	1.63	83.37	160.99	6.73	59.93	56.69	18.31	2.83	0.24	0.58
Spain	862	0.49	0.37	2	0.10	0.25	2.36	12.82	0.01	0.08	0.36	1.22	77.57	131.03	4.69	60.12	38.44	117.98	3.11	0.25	0.52
Turkey	2,100	0.67	0.43	2	0.05	0.15	1.97	11.53	0.01	0.08	0.36	0.21	38.57	65.45	1.03	29.73	7.50	43.73	4.48	0.23	0.28
c) Full Imputation																					
Finland	437	0.34	0.46	1	-0.53	0.25	2.17	11.77	0.01	0.06	0.31	1.44	46.50	126.82	4.03	45.67	35.86	131.22	1.67	0.27	0.68
France	4,286	0.46	0.38	0	0.12	0.26	2.53	11.86	0.00	0.06	0.20	1.25	51.66	126.47	7.62	83.00	22.06	49.55	1.74	0.26	0.56
Italy	1,177	0.53	0.42	2	0.17	0.27	1.98	12.45	0.00	0.05	0.26	1.03	49.83	133.72	4.67	127.04	17.43	35.93	2.95	0.23	0.47
Mexico	1,152	0.36	0.17	0	-0.1	0.26	1.49	12.91	0.01	0.08	0.46	1.67	22.94	69.87	1.57	29.71	10.75	15.05	4.21	0.20	0.67
Norway	718	0.24	0.42	2	-0.14	0.36	1.96	11.92	0.01	0.04	0.40	0.62	49.42	136.45	4.91	39.59	9.23	35.15	1.88	0.24	0.80
Panel C: overall sample																					
All strong	66,128	0.35***	0.74***	2.34***	0.13***	0.24	2.72**	12.12	0.00	0.01*	0.33	0.10***	62.26***	89.61	7.16*	93.44***	34.39***	124.54***	2.60***	0.24	0.75***
All weak	68,666	0.51	0.42	1.72	0.03	0.23	1.79	11.91	0.00	0.04	0.30	1.04	131.95	89.29	6.33	134.97	21.70	77.16	1.07	0.22	0.50
All classical	39,332	0.44[a,b]	0.51[a,b]	1.64[a,b,c]	0.77[a,c]	0.23	0.11[b,c]	11.78[a,c]	0.00	0.02	0.29[c]	0.60[a,c]	131.09[a,b,c]	76.75[a,c]	6.58[b]	156.67[a,b]	19.80[a,b]	121.27[a,b,c]	1.19[a,b,c]	0.22	0.56[a,b,c]
All partial	68,658	0.50	0.64	2.38	0.88	0.22	0.10	11.97	0.00	0.04	0.30	0.49	54.23	71.85	8.12	70.76	43.82	95.32	2.34	0.23	0.60
All full	26,804	0.49	0.68	2.45	1.03	0.25	0.01	12.45	0.00	0.03	0.35	0.52	64.74	123.62	6.12	67.30	32.08	70.53	2.68	0.24	0.76
All sample	134,794	0.43	0.59	2.02	0.92	0.24	0.08	12.01	0.00	0.02	0.31	0.55	96.45	89.45	6.75	113.26	28.16	101.30	1.85	0.23	0.63

This table reports differences across subsamples based on the investor protection level and tax system. The overall sample included 134,794 firm-year observations from 24 OECD countries from 1990 to 2011. We follow Alzahrani and Lasfer (2012) and classify a country as strong (weak) investor protections if its anti-self-dealing index score, as reported by Djankov et al. (2008), is above (below) the mean anti-self-dealing index score of the sample. The remaining variables are defined in Appendix 1.
*, **, and *** indicate significance at 10%, 5%, and 1% levels, respectively between strong and weak protection. [a, b, c] significantly different at 1% level between *Classical* and *Partial* tax system, *Classical* and *Full* tax system, and between *Full* and *Partial* tax system, using two-tailed t-tests.

Appendix 3. Correlation Matrix

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
1	STDR	1																					
2	Inv.p	-0.14	1																				
3	CR	-0.03	0.55	1																			
4	Classical	0.15	-0.67	-0.36	1																		
5	TD	-0.03	0.13	-0.23	0.61	1																	
6	LTBLev	-0.55	0.01	**0.02**	**0.07**	0.05	1																
7	MB	-0.04	0.23	**0.00**	-0.09	0.07	0.01	1															
8	Size	-0.32	0.05	0.06	-0.12	-0.06	0.05	0.15	1														
9	AB	-0.02	**0.00**	**0.00**	-0.01	0.00	**-0.01**	-0.01	0.03	1													
10	ROA	-0.14	-0.06	0.04	-0.05	-0.05	0.00	-0.15	0.38	0.13	1												
11	AM	-0.20	-0.01	0.09	-0.08	-0.02	0.28	-0.14	0.10	-0.01	0.07	1											
12	Z-score	0.03	0.08	0.00	**-0.00**	0.05	-0.45	0.22	0.20	0.05	0.34	-0.17	1										
13	TS	0.06	-0.32	-0.17	0.04	-0.15	0.05	-0.14	0.03	0.03	0.09	0.03	-0.05	1									
14	Bank Dep.	0.19	-0.74	-0.12	0.54	-0.12	0.05	-0.23	-0.03	0.00	0.02	0.02	-0.07	0.25	1								
15	Bank Credit	-0.13	0.14	-0.07	-0.22	-0.13	0.05	0.08	0.09	**0.00**	0.01	0.00	-0.00	0.07	-0.10	1							
16	Ins. Prem.	0.02	0.26	0.23	-0.06	0.02	-0.03	0.06	-0.01	**0.00**	-0.04	-0.08	-0.00	-0.08	-0.10	-0.21	1						
17	Bond Cap.	0.17	-0.57	-0.31	0.71	-0.03	-0.01	-0.15	-0.09	**-0.01**	-0.06	-0.08	-0.03	0.06	0.70	-0.24	**0.01**	1					
18	Inter. Debt	-0.11	0.39	0.14	-0.32	-0.12	-0.02	0.10	0.04	-0.01	-0.08	-0.08	-0.03	-0.14	-0.33	0.21	0.14	-0.25	1				
19	Stock Traded	-0.03	0.14	-0.17	0.29	0.20	-0.07	0.17	-0.05	-0.02	-0.18	-0.13	0.04	-0.43	-0.09	-0.15	0.34	0.27	0.18	1			
20	Inflation	-0.17	0.56	0.08	-0.44	0.05	-0.02	0.21	0.03	-0.03	-0.04	0.02	0.05	-0.35	-0.67	0.23	-0.22	-0.56	0.26	0.08	1		
21	Domestic Savings	-0.04	0.14	0.1	-0.08	0.05	0.01	0.04	-0.02	-0.02	-0.02	0.00	0.00	0.05	-0.12	0.07	0.10	-0.16	-0.03	0.02	0.08	1	
22	Ind. Med	-0.45	0.51	0.07	-0.32	0.07	0.12	0.14	0.20	0.01	0.01	0.17	0.01	-0.19	-0.41	0.24	-0.01	-0.32	0.26	0.15	0.37	0.08	1

The table presents the Pearson correlation coefficients across our variables. The sample includes 134,794 firm/year observations from 24 OECD countries. The variables are defined in Appendix 1. All correlation coefficients are significant at 1% level except those in bold. The data is winsorized at the top and bottom 1%.

Appendix 4: Regressions by Country

Dependant variable is STDR: short-term debt/ total debt

	LTBLev		MB		Size		AB		ROA		AM		Ind. Med		Constant		N	R^2
Australia	-0.739	(-89.64)	0.016	(19.97)	-0.027	(-31.64)	-0.181	(-15.87)	-0.035	(-5.41)	-0.004	(-2.09)	-0.148	(-11.69)	0.940	(69.71)	24,177	0.43
Austria	-0.530	(-15.25)	0.025	(5.64)	-0.029	(-7.75)	-0.162**	(-1.98)	0.195	(5.54)	-0.038	(-0.21)	-0.664	(-21.74)	1.219	(29.23)	1,065	0.54
Belgium	-0.430	(-12.83)	-0.002	(-0.61)	-0.025	(-6.73)	-0.227	(-3.38)	0.087	(2.75)	-0.113	(-0.67)	-0.686	(-20.18)	1.245	(29.29)	1,054	0.55
Canada	-0.825	(-39.70)	0.007	(2.76)	-0.041	(-16.06)	0.036	(1.21)	0.001	(0.05)	-0.210	(-1.84)	-0.269	(-9.84)	1.229	(37.28)	4,210	0.43
Denmark	-0.470	(-13.73)	0.012	(3.31)	-0.022	(-5.86)	0.044	(0.80)	0.014	(0.44)	-0.209	(-2.22)	-0.665	(-20.30)	1.157	(28.14)	1,357	0.44
Finland	-0.611	(-15.92)	0.013	(3.61)	-0.005	(-1.29)	-0.240	(-4.30)	0.057	(1.58)	-0.083	(-0.53)	-0.737	(-17.97)	1.034	(21.61)	1,040	0.43
France	-0.715	(-44.40)	0.006	(3.77)	-0.010	(-6.57)	-0.195	(-6.24)	-0.020	(-1.09)	0.050	(0.58)	-0.470	(-20.08)	1.020	(48.56)	6,394	0.35
Germany	-0.687	(-31.89)	0.012	(5.05)	-0.014	(-6.64)	-0.072**	(-2.27)	-0.046**	(-2.02)	-0.100	(-2.90)	-0.462	(-16.90)	1.041	(37.92)	4,190	0.33
Ireland	-0.401	(-7.91)	0.004	(0.97)	-0.004	(-0.81)	-0.135*	(-1.69)	-0.020	(-0.52)	0.109	(0.38)	-0.730	(-18.29)	1.020	(16.20)	423	0.70
Italy	-0.580	(-24.95)	0.017	(5.95)	-0.022	(-7.07)	-0.341	(-5.97)	-0.074	(-3.03)	0.084	(0.60)	-0.445	(-16.81)	1.176	(31.92)	2,139	0.47
Japan	-0.568	(-75.42)	0.013	(11.41)	-0.027	(-32.12)	-0.206	(-10.70)	-0.040	(-4.51)	0.110	(3.18)	-0.373	(-25.62)	1.181	(112.23)	29,027	0.28
Luxembourg	-0.731	(-6.39)	0.028*	(1.87)	0.002	(0.16)	-0.575*	(-1.84)	0.024	(0.34)	0.465	(0.89)	-0.689	(-7.53)	0.975	(6.10)	134	0.55
Mexico	-0.593	(-16.10)	0.016	(2.71)	-0.026	(-5.71)	-0.465	(-4.05)	-0.119	(-3.64)	0.077	(0.47)	-0.539	(-15.36)	1.272	(22.85)	859	0.59
Netherlands	-0.380	(-10.59)	0.011	(3.63)	-0.014	(-3.45)	-0.020	(-0.30)	0.045	(1.10)	-0.231	(-1.18)	-0.756	(-20.31)	1.102	(21.84)	883	0.51
New Zealand	-0.807	(-15.74)	0.021	(4.04)	-0.016	(-2.63)	0.038	(0.50)	-0.080**	(-2.18)	-0.050	(-0.24)	-0.528	(-15.21)	1.078	(17.14)	745	0.61
Norway	-0.406	(-9.07)	-0.012**	(-2.46)	-0.019	(-4.32)	-0.160	(-2.59)	0.074**	(2.01)	0.142	(0.85)	-0.731	(-17.24)	1.182	(19.00)	585	0.54
Poland	-1.011	(-23.66)	0.009**	(2.50)	-0.005	(-1.12)	-0.331	(-4.80)	-0.068**	(-2.07)	0.038	(0.22)	-0.513	(-14.14)	1.004	(21.34)	1,585	0.40
Portugal	-0.463	(-13.28)	0.012	(3.17)	-0.010**	(-2.19)	-0.235**	(-2.36)	0.032	(0.86)	0.019	(0.10)	-0.702	(-19.62)	1.116	(25.39)	535	0.71
Spain	-0.561	(-20.15)	0.000	(0.04)	-0.010	(-2.88)	-0.227	(-3.14)	-0.127	(-5.13)	-0.101	(-0.67)	-0.577	(-20.37)	1.133	(29.01)	1,291	0.61
Sweden	-0.744	(-20.88)	0.008**	(2.49)	-0.006*	(-1.71)	-0.081*	(-1.91)	0.022	(0.62)	-0.250	(-1.34)	-0.446	(-11.89)	0.902	(19.39)	1,781	0.35
Switzerland	-0.745	(-25.35)	0.012	(3.79)	-0.009**	(-2.39)	-0.141**	(-2.38)	-0.081**	(-2.56)	-0.189	(-1.09)	-0.508	(-18.68)	1.013	(21.02)	2,035	0.42
Turkey	-1.028	(-34.16)	0.022	(7.55)	-0.027	(-7.58)	-0.298	(-4.64)	-0.189	(-6.49)	-0.078	(-0.59)	-0.236	(-7.86)	1.247	(30.86)	1,650	0.50
United Kingdom	-1.001	(-64.23)	0.020	(15.14)	-0.025	(-16.69)	-0.057	(-2.72)	-0.019	(-1.46)	-0.225	(-2.68)	-0.271	(-15.67)	1.073	(59.32)	8,451	0.46
United States	-0.862	(-86.21)	0.015	(16.88)	-0.049	(-42.07)	-0.071	(-6.28)	-0.040	(-3.99)	0.183	(2.60)	-0.172	(-10.23)	1.210	(69.85)	17,349	0.43

Dependant variable is LTBLev: Long-term Debt/(Long-term Debt + Book Value of Equity)

	STDR		MB		Size		ROA		Tg		Ind. Med		Constant		N	R^2
Australia	-0.537	(-27.39)	-0.010	(-15.99)	0.022	(34.50)	-0.019	(-2.26)	0.175	(20.55)	0.807	(49.88)	0.160	(9.43)	22,509	0.27
Austria	-0.522	(-4.89)	-0.021	(-5.56)	0.023	(6.91)	-0.236	((3.93)	0.219	(3.74)	0.688	(13.12)	0.216	(2.03)	1,092	0.26
Belgium	-0.433	(-4.13)	0.011	(3.67)	0.004	(1.41)	-0.137	(-2.58)	0.259	(6.88)	0.884	(19.29)	0.518	(5.88)	1,060	0.40
Canada	-0.420	(-10.59)	-0.018	(-11.79)	0.021	(13.08)	-0.043	(-2.30)	0.231	(12.15)	0.866	(31.51)	0.123	(3.17)	4,360	0.32
Denmark	-0.569	(-7.03)	-0.009	(-3.50)	0.000	(0.18)	-0.073	(-1.93)	0.252	(6.59)	0.847	(19.95)	0.498	(7.05)	1,370	0.33
Finland	-1.291	(-15.25)	-0.009	(-3.50)	0.015	(5.79)	-0.184	(-4.75)	0.229	(7.23)	0.737	(15.94)	1.023	(14.90)	1,056	0.38
France	-1.055	(-22.01)	-0.008	(-6.73)	0.012	(10.79)	-0.245	(-11.51)	0.372	(23.66)	0.589	(21.44)	0.799	(21.43)	6,507	0.26
Germany	-1.486	(-25.72)	-0.008	(-5.24)	-0.005	(-3.50)	-0.041	(-1.89)	0.282	(14.15)	0.412	(10.52)	0.992	(22.66)	4,232	0.22
Ireland	-0.601	(-5.47)	0.011	(-3.57)	0.017	(4.24)	-0.167	(-2.73)	0.237	(5.42)	0.992	(19.51)	0.284	(3.08)	428	0.65
Italy	-0.593	(-7.97)	0.002	(0.85)	0.033	(12.15)	-0.247	(-5.19)	0.178	(6.10)	0.892	(20.10)	0.057	(0.82)	2,150	0.28
Japan	-1.292	(-12.23)	-0.030	(-34.86)	0.004	(5.53)	-0.499	(-34.26)	0.317	(12.47)	0.402	(25.99)	1.012	(33.67)	28,842	0.24
Luxembourg	0.109	(0.47)	-0.027	(-3.24)	0.022	(2.47)	-0.008	(-0.04)	0.196	(1.81)	0.891	(6.88)	0.040	(0.20)	144	0.33
Mexico	-0.352	(-3.02)	-0.002	(-0.37)	0.020	(4.00)	-0.281	(-2.42)	0.030	(0.51)	1.026	(15.60)	-0.034	(-0.31)	542	0.36
Netherlands	-0.446	(-3.35)	0.013	(4.89)	0.015	(4.64)	-0.126	(-2.31)	0.132	(3.18)	0.875	(16.80)	0.169	(1.61)	885	0.38
New Zealand	-0.421	(-4.93)	-0.012	(-3.74)	0.015	(3.88)	0.070	(1.37)	0.252	(5.81)	0.960	(18.96)	0.192	(2.35)	755	0.42
Norway	-1.132	(-10.64)	-0.013	-(2.96)	0.000	(0.00)	-0.012	(-0.23)	0.151	(2.27)	0.568	(10.64)	0.794	(7.33)	558	0.53
Poland	-0.488	(-7.31)	0.018	(8.87)	0.010	(4.19)	-0.109	(-2.95)	0.176	(5.89)	0.556	(11.56)	0.262	(4.50)	1,442	0.20
Portugal	-0.269	(-1.48)	0.016	(3.44)	0.019	(3.56)	-0.030	(-0.24)	0.009	(0.16)	0.888	(12.05)	-0.079	(-0.53)	502	0.35
Spain	-0.598	(-7.51)	0.001	(0.36)	0.029	(9.66)	-0.555	(-8.75)	0.159	(3.91)	0.840	(18.57)	0.115	(1.44)	1,352	0.42
Sweden	-0.844	(-10.39)	-0.007	(-3.75)	0.009	(4.31)	0.014	(0.58)	0.210	(8.11)	0.779	(18.62)	0.516	(8.57)	1,910	0.30
Switzerland	-0.839	(-11.25)	0.016	(-7.23)	0.008	(3.37)	-0.079	(-1.94)	0.242	(6.91)	0.722	(16.87)	0.752	(11.35)	2,156	0.30
Turkey	-0.594	(-6.03)	0.011	(3.66)	0.007	(1.69)	-0.353	(-5.33)	0.486	(7.46)	0.634	(10.74)	0.662	(6.38)	913	0.25
United Kingdom	-0.631	(-19.14)	-0.010	(-11.61)	0.021	(21.50)	-0.039	(-3.08)	0.167	(13.41)	0.612	(21.59)	0.217	(8.11)	8,988	0.33
United States	-1.026	(-35.19)	-0.009	(-12.27)	0.003	(2.88)	0.049	(5.30)	0.281	(26.70)	0.541	(25.40)	0.751	(32.56)	14,495	0.38

This table reports regression coefficient (t-statistics) by country. The dependent variable in Panel A is short-term debt maturity (*STDR*) computed as short-term debt over total debt. The dependent variable in Panel B is leverage (*LTBLev*) computed as long-term Debt/(Long-term Debt + Book Value of Equity). The remaining variables are defined in Appendix 1.

Appendix 5: Debt Maturity and Leverage by Year

	ALL				US				ROW - Strong investor protection				ROW - Weak investor protection			
	Stressed		Healthy		Stressed		Healthy		Stressed		Healthy		Stressed		Healthy	
	STDR	LTBLev	STDR	LTBLev	STDR	LTBLev	STDR	LTBLev	STDR	LTBLev	STDR	LTBLev	STDR	LTBLev	STDR	LTBLev
1990	0.271	0.441	0.356	0.239	0.175	0.473	0.285	0.221	0.212	0.463	0.341	0.243	0.371	0.404	0.427	0.244
	(0.185)	(0.465)	(0.271)	(0.221)	(0.087)	(0.508)	(0.190)	(0.187)	(0.127)	(0.476)	(0.231)	(0.232)	(0.339)	(0.429)	(0.401)	(0.229)
1991	0.296	0.433	0.356	0.227	0.223	0.509	0.294	0.201	0.242	0.440	0.346	0.232	0.392	0.405	0.426	0.233
	(0.202)	(0.461)	(0.270)	(0.200)	(0.118)	(0.560)	(0.169)	(0.155)	(0.139)	(0.478)	(0.247)	(0.206)	(0.382)	(0.425)	(0.399)	(0.206)
1992	0.303	0.433	0.360	0.219	0.225	0.483	0.321	0.191	0.235	0.448	0.348	0.225	0.393	0.408	0.420	0.228
	(0.219)	(0.466)	(0.268)	(0.195)	(0.122)	(0.497)	(0.217)	(0.154)	(0.138)	(0.489)	(0.235)	(0.221)	(0.364)	(0.423)	(0.391)	(0.199)
1993	0.307	0.437	0.346	0.224	0.312	0.415	0.338	0.196	0.222	0.466	0.328	0.228	0.398	0.409	0.397	0.236
	(0.203)	(0.474)	(0.256)	(0.200)	(0.141)	(0.446)	(0.221)	(0.139)	(0.125)	(0.494)	(0.220)	(0.209)	(0.382)	(0.412)	(0.360)	(0.225)
1994	0.301	0.420	0.356	0.211	0.271	0.354	0.346	0.171	0.204	0.467	0.330	0.226	0.419	0.398	0.428	0.223
	(0.209)	(0.453)	(0.276)	(0.184)	(0.129)	(0.423)	(0.234)	(0.114)	(0.125)	(0.479)	(0.236)	(0.213)	(0.384)	(0.414)	(0.404)	(0.205)
1995	0.297	0.423	0.352	0.217	0.306	0.400	0.322	0.174	0.196	0.450	0.323	0.242	0.399	0.405	0.463	0.210
	(0.202)	(0.461)	(0.266)	(0.191)	(0.193)	(0.464)	(0.221)	(0.110)	(0.103)	(0.479)	(0.233)	(0.229)	(0.367)	(0.429)	(0.441)	(0.175)
1996	0.317	0.404	0.351	0.214	0.332	0.371	0.338	0.179	0.225	0.450	0.318	0.233	0.397	0.374	0.433	0.215
	(0.217)	(0.446)	(0.260)	(0.184)	(0.193)	(0.411)	(0.220)	(0.111)	(0.118)	(0.481)	(0.214)	(0.217)	(0.345)	(0.397)	(0.385)	(0.183)
1997	0.337	0.383	0.354	0.219	0.380	0.312	0.342	0.180	0.241	0.425	0.313	0.247	0.407	0.383	0.444	0.208
	(0.223)	(0.430)	(0.268)	(0.186)	(0.265)	(0.250)	(0.232)	(0.117)	(0.122)	(0.474)	(0.197)	(0.228)	(0.374)	(0.413)	(0.421)	(0.178)
1998	0.363	0.347	0.366	0.221	0.415	0.267	0.360	0.179	0.276	0.398	0.321	0.254	0.419	0.378	0.451	0.211
	(0.255)	(0.369)	(0.274)	(0.191)	(0.322)	(0.195)	(0.251)	(0.110)	(0.139)	(0.442)	(0.213)	(0.240)	(0.361)	(0.382)	(0.412)	(0.178)
1999	0.363	0.347	0.373	0.220	0.390	0.285	0.370	0.178	0.286	0.388	0.336	0.252	0.438	0.360	0.442	0.213
	(0.255)	(0.364)	(0.280)	(0.187)	(0.272)	(0.228)	(0.264)	(0.099)	(0.159)	(0.441)	(0.216)	(0.232)	(0.421)	(0.368)	(0.409)	(0.182)
2000	0.452	0.356	0.448	0.193	0.389	0.290	0.364	0.180	0.356	0.341	0.344	0.240	0.517	0.384	0.537	0.171
	(0.437)	(0.364)	(0.402)	(0.149)	(0.262)	(0.248)	(0.257)	(0.094)	(0.223)	(0.364)	(0.243)	(0.217)	(0.524)	(0.391)	(0.529)	(0.131)
2001	0.463	0.343	0.451	0.193	0.414	0.294	0.369	0.188	0.369	0.328	0.341	0.232	0.519	0.363	0.539	0.174

	(0.448)	(0.355)	(0.411)	(0.144)	(0.304)	(0.239)	(0.225)	(0.108)	(0.237)	(0.344)	(0.229)	(0.211)	(0.522)	(0.375)	(0.540)	(0.128)
2002	0.466	0.331	0.454	0.191	0.426	0.267	0.368	0.197	0.380	0.321	0.330	0.226	0.517	0.355	0.550	0.169
	(0.451)	(0.334)	(0.396)	(0.146)	(0.330)	(0.189)	(0.223)	(0.133)	(0.222)	(0.329)	(0.205)	(0.199)	(0.528)	(0.357)	(0.533)	(0.121)
2003	0.460	0.345	0.450	0.188	0.400	0.301	0.387	0.181	0.360	0.332	0.320	0.224	0.518	0.361	0.542	0.170
	(0.425)	(0.352)	(0.394)	(0.141)	(0.256)	(0.256)	(0.251)	(0.106)	(0.193)	(0.355)	(0.195)	(0.203)	(0.507)	(0.366)	(0.523)	(0.119)
2004	0.438	0.348	0.445	0.188	0.416	0.289	0.375	0.179	0.343	0.333	0.320	0.217	0.492	0.373	0.531	0.175
	(0.402)	(0.362)	(0.389)	(0.142)	(0.326)	(0.216)	(0.249)	(0.103)	(0.171)	(0.367)	(0.190)	(0.195)	(0.481)	(0.378)	(0.502)	(0.125)
2005	0.433	0.337	0.453	0.183	0.408	0.284	0.386	0.170	0.363	0.323	0.331	0.213	0.481	0.362	0.537	0.169
	(0.376)	(0.343)	(0.407)	(0.134)	(0.300)	(0.211)	(0.258)	(0.094)	(0.203)	(0.330)	(0.194)	(0.177)	(0.455)	(0.362)	(0.514)	(0.120)
2006	0.438	0.330	0.455	0.179	0.412	0.293	0.382	0.170	0.379	0.315	0.340	0.208	0.491	0.355	0.537	0.165
	(0.392)	(0.334)	(0.404)	(0.129)	(0.310)	(0.247)	(0.252)	(0.098)	(0.211)	(0.320)	(0.209)	(0.173)	(0.466)	(0.358)	(0.510)	(0.116)
2007	0.426	0.328	0.458	0.177	0.398	0.300	0.379	0.173	0.371	0.319	0.350	0.210	0.478	0.346	0.539	0.160
	(0.375)	(0.325)	(0.409)	(0.123)	(0.298)	(0.256)	(0.252)	(0.098)	(0.193)	(0.336)	(0.219)	(0.175)	(0.469)	(0.338)	(0.518)	(0.108)
2008	0.438	0.312	0.472	0.176	0.426	0.283	0.380	0.178	0.373	0.303	0.346	0.213	0.493	0.330	0.561	0.156
	(0.372)	(0.300)	(0.428)	(0.120)	(0.291)	(0.218)	(0.231)	(0.103)	(0.209)	(0.289)	(0.213)	(0.175)	(0.473)	(0.318)	(0.549)	(0.100)
2009	0.440	0.314	0.444	0.173	0.424	0.283	0.373	0.167	0.375	0.293	0.335	0.206	0.491	0.338	0.522	0.155
	(0.384)	(0.303)	(0.383)	(0.114)	(0.306)	(0.219)	(0.219)	(0.096)	(0.184)	(0.281)	(0.182)	(0.169)	(0.477)	(0.330)	(0.493)	(0.094)
2010	0.437	0.317	0.433	0.171	0.383	0.287	0.372	0.165	0.401	0.293	0.340	0.198	0.480	0.343	0.503	0.156
	(0.380)	(0.307)	(0.365)	(0.116)	(0.215)	(0.252)	(0.211)	(0.100)	(0.224)	(0.266)	(0.182)	(0.157)	(0.463)	(0.335)	(0.462)	(0.099)
2011	0.426	0.317	0.436	0.173	0.377	0.312	0.344	0.180	0.383	0.295	0.340	0.199	0.475	0.337	0.512	0.156
	(0.361)	(0.303)	(0.373)	(0.117)	(0.199)	(0.299)	(0.154)	(0.124)	(0.187)	(0.278)	(0.178)	(0.159)	(0.455)	(0.317)	(0.477)	(0.098)
Total	0.425	0.339	0.431	0.189	0.398	0.296	0.364	0.178	0.350	0.334	0.335	0.221	0.487	0.356	0.523	0.169
	(0.370)	(0.347)	(0.367)	(0.142)	(0.265)	(0.252)	(0.232)	(0.109)	(0.228)	(0.361)	(0.208)	(0.196)	(0.476)	(0.357)	(0.500)	(0.120)

This table reports the average (median) debt maturity (*STDR*) and leverage (*LTBLev*) by year. *All* is for the sample as a whole. *ROW* is for Rest of the World (excluding the US). We follow Alzahrani and Lasfer (2012) and classify ROW countries into strong (weak) investor protections if its anti-self-dealing index score, as reported by Djankov et al. (2008), is above (below) the mean anti-self-dealing index score of the sample. We use Z-score to measure financial distress and consider firms with Z values below 1.80 to be financially distressed.

Appendix 5. Comparative analysis of the tax systems and TD between our sample period and 2012-2016

Country	**TD 1990-2011**	**TD 2012-2016**
Panel A: strong investor protection countries		
a) Classical		
Ireland	0.14	0.175
USA	0.29	0.181
b) Partial Imputation		
Canada	0.23	
Ireland	0.18	
UK	0.14	0.034
c) Full Imputation		
Australia	0.00	0.004
Canada	0.23	0.035
New Zealand	0.01	0.000
Panel B: weak investor protection countries		
a) Classical		
Austria	-0.05	-0.097
Belgium	-0.18	-0.087
Denmark	-003	0.010
Germany	0.02	0.021
Japan	0.04	-0.023
Netherlands	0.08	-0.172
Poland	-0.08	0.035
Portugal	0.13	-0.122
Spain	0.04	-0.046
Sweden	-0.14	-0.241
Switzerland	0.25	-0.066
b) Partial Imputation		
Denmark	0.00	
Finland	-0.24	-0.181
France	0.06	0.188
Germany	0.10	
Italy	-0.11	-0.102
Luxembourg	0.07	0.005
Norway	-0.22	
Portugal	0.07	
Spain	0.10	
Turkey	0.05	-0.027
c) Full Imputation		
Finland	-0.53	
France	0.12	
Italy	0.17	
Mexico	-0.10	0.054
Norway	-0.14	
Panel C: overall sample		
All strong	0.13	0.072
All weak	0.03	-0.050
All classical	0.77	-0.033
All partial	0.88	-0.014
All full	1.03	0.023
All sample	0.92	-0.018

Note: Similar to 2006-2011, we exclude Norway as we could not classify Norway tax system in 2012-2016 because they apply other tax treatments.
Source: OECD tax database.